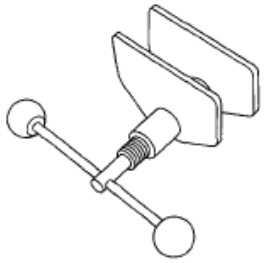
2006-08 BRAKES

Conventional Brake Components - Civic (Except Hybrid)

SPECIAL TOOLS

NOTE: Refer to the CONVENTIONAL BRAKE COMPONENTS (GX) (SUPPLEMENT) article for additional information for the GX model.

Ref. No.	Tool Number	Description	Qty
①	07AAE-SEPA101	Brake Caliper Piston Compressor	1



①

Fig. 1: Identifying Special Tools

COMPONENT LOCATION INDEX

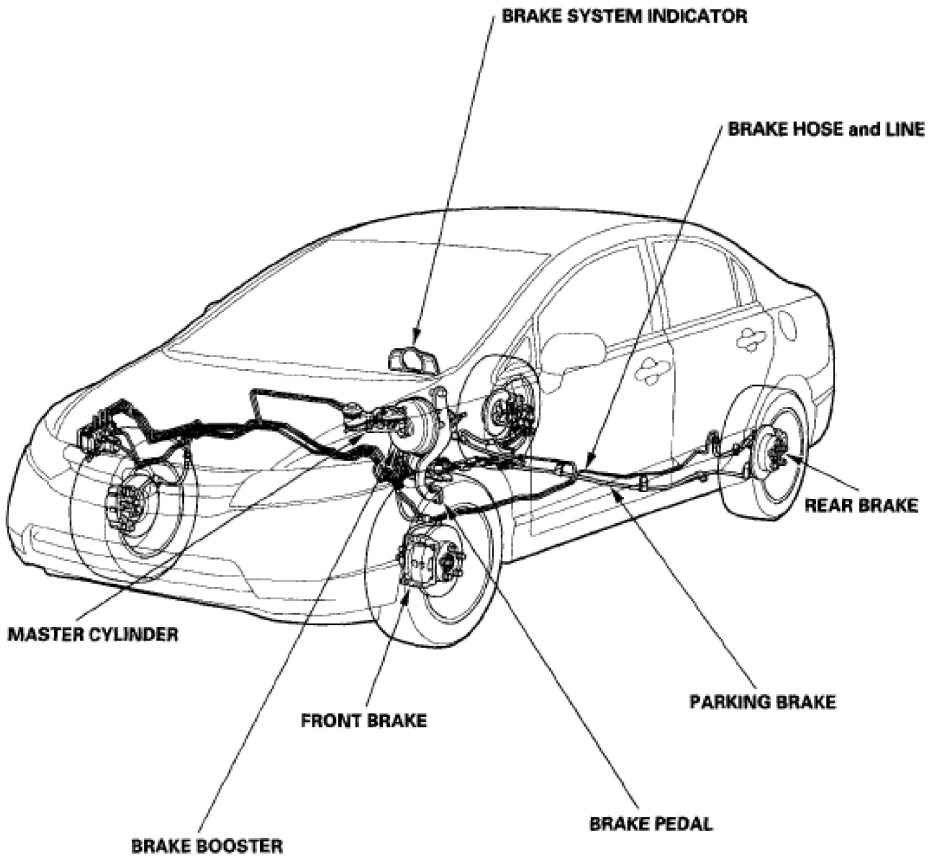


Fig. 2: Locating Conventional Brake Component

BRAKE SYSTEM INSPECTION AND TEST

Inspect the brake system components listed. Repair or replace any parts that are leaking or damaged.

BRAKE SYSTEM COMPONENT INSPECTIONS REFERENCE

Component	Procedure	Also check for
Master Cylinder	Look for damage or signs of fluid leakage at: • Reservoir tank, reservoir union or master cylinder body. • Lines, reservoir tank	Bulging seat at reservoir cap. This is a sign of fluid contamination.

	hose and grommets, and their joints. • Between master cylinder and booster.	
Brake Hoses	Look for damage or signs of fluid leakage at: • Line joints and banjo bolt connections. • Hoses and lines, also inspect for twisting or damage.	Bulging, twisted, or bent lines.
Caliper	Look for damage or signs of fluid leakage at: • Piston seal. • Banjo bolt connections. • Bleed screw.	Seized or sticking caliper pins.
Wheel Cylinder	Look for damage or signs of fluid leakage at: • Wheel cylinder. • Line joints. • Bleed Screw.	
ABS or VSA Modulator-control Unit	Look for damage or signs of fluid leakage at: • Line joints. • Modulator-control unit.	

BRAKE SYSTEM TEST

Brake pedal sinks/fades when braking

1. Set the parking brake, and start the engine, then turn off the A/C switch. Allow

the engine to warm up to normal operating temperature (radiator fan comes on twice).

2. Attach a 50 mm (2 in.) piece of masking tape along the bottom of the steering wheel, and draw a horizontal reference mark across it.
3. With the transmission M/T in neutral position, A/T in P or N position, press and hold the brake pedal lightly (about the same pressure needed to keep an A/T-equipped vehicle from creeping), then release the parking brake.
4. While still holding the brake pedal, hook the end of the tape measure behind the brake pedal, then pull the tape up to the steering wheel. Note the measurement between the brake pedal and the reference mark on the steering wheel.
5. Apply steady pressure to the brake pedal for 3 minutes.
6. Watch the tape measure.
   - If the measurement increases 10 mm (3/8 in.) or less, the master cylinder is OK.
   - If the measurement increases more than 10 mm (3/8 in.), replace the master cylinder.

SYMPTOM TROUBLESHOOTING

RAPID BRAKE PAD WEAR, VEHICLE VIBRATION (AFTER A LONG DRIVE), OR HIGH, HARD BRAKE PEDAL

NOTE: Make sure that the caliper pins are installed correctly.

The upper caliper pin B and lower caliper pin A are different. If the pins are installed in the wrong location, it will cause, vibration, and or uneven or rapid pad wear, or possibly uneven tire wear. For proper caliper pin location: Except Si model (see **EXCEPT SI MODEL**), Si model (see **SI MODEL**).

1. Drive the vehicle until the brakes drag or until the pedal is high and hard. This can take 20 or more brake pedal applications during an extended test-drive.
2. With the engine running, raise the vehicle on a lift, and spin all four wheels by hand.

Is there brake drag at any of the wheels?

YES - Go to step 3.

NO - Look for other causes of the pad wear, high pedal, or vehicle vibration.

3. Turn the engine off, pump the brake pedal to deplete the vacuum in the brake booster, and then spin the wheels again to check for brake drag.

   Is there brake drag at any of the wheels?

   YES - Go to step 4.

   NO - Replace the brake booster: Except Si model (see **EXCEPT SI MODEL**), Si model (see **SI MODEL**).

4. Without removing the brake lines, unbolt and separate the master cylinder from the booster, then spin the wheels to check for brake drag.

   Is there brake drag at any of the wheels?

   YES - Go to step 5.

   NO - Check the brake pedal position switch adjustment and pedal free play (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT**).

5. Loosen the hydraulic lines at the master cylinder, then spin the wheels to check for brake drag.

   Is there brake drag at any of the wheels?

   YES - Go to step 6.

   NO - Replace the master cylinder (see **MASTER CYLINDER REPLACEMENT**).

6. Loosen the bleed screws at each caliper or wheel cylinder, then spin the wheels to check for brake drag.

Is there brake drag at any of the wheels?

YES - Disassemble and repair the caliper or wheel cylinder on the wheel(s) with brake drag.

NO - Look for and replace any damaged brake lines. If all brake lines are OK, replace the ABS or VSA modulator-control unit: ABS (except Si model) (see **REMOVAL - EXCEPT SI MODEL**), ABS (Si model) (see **REMOVAL - SI MODEL**), VSA (see **VSA MODULATOR-CONTROL UNIT REMOVAL AND INSTALLATION**).

BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT

PEDAL HEIGHT

1. Turn the brake pedal position switch (A) counterclockwise, and pull it back until it is no longer touching the brake pedal.

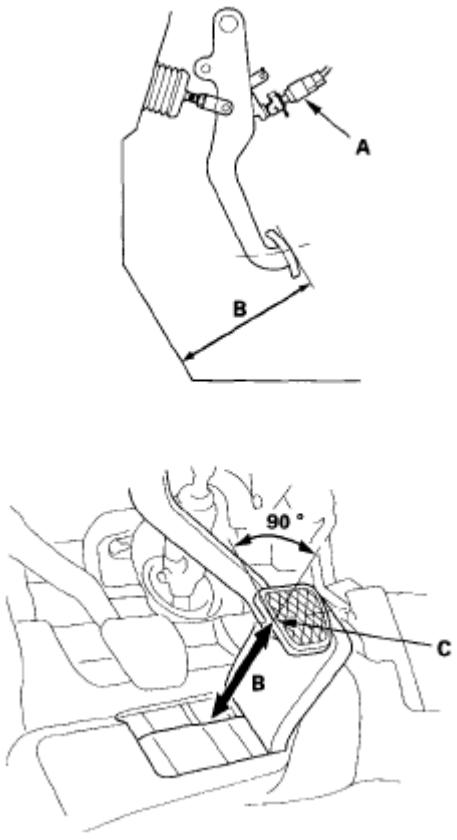


Fig. 3: Turning Brake Pedal Position Switch Counterclockwise

2. Pull back the carpet and find the cutout in the insulator. Lift up the insulator cutout and measure the pedal height (B) at the middle of the left side center of the pedal pad (C) to the floor.

   Standard pedal height (with carpet removed):

   M/T model: 153 mm (6 in.)
   A/T model: 158 mm (6 1/4 in.)

3. Loosen the pushrod locknut (A), and screw the pushrod (B) in or out with pliers until the standard pedal height from the floor is reached. After adjustment, tighten the locknut firmly. Do not adjust the pedal height with the pushrod pressed.

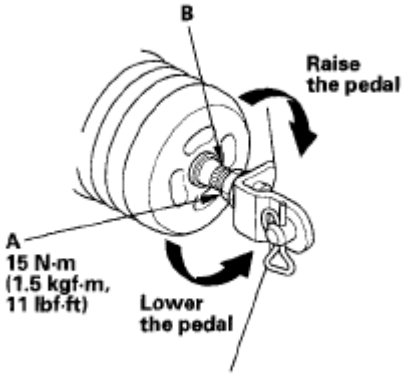


Fig. 4: Loosening Pushrod Locknut (With Specifications)

Brake Pedal Position Switch Clearance

4. Pull up on the brake pedal, then push in the brake pedal position switch until its plunger is fully pressed (threaded end (A) touching the pad (B) on the pedal arm). Then, turn the brake pedal position switch 45° clockwise to lock it. The gap between the brake pedal position switch and the pad is automatically adjusted to 0.7 mm (0.03 in.) by locking the switch. Make sure the brake lights go off when the pedal is released.

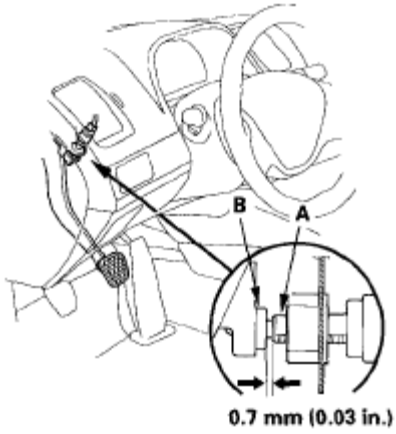


Fig. 5: Identifying Brake Pedal Position Switch

5. Check the brake pedal free play.

PEDAL FREE PLAY

1. With the ignition switch OFF, inspect the pedal free play (A) on the pedal pad (B) by pushing the pedal by hand. If the brake pedal free play is insufficient, it may result in excessive brake drag.

   Free play: 1-5 mm (1/16-3/16 in.)

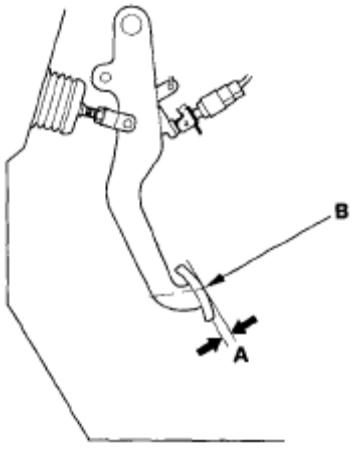


Fig. 6: Inspecting Pedal Free Play On Pedal Pad Pushing Pedal

PARKING BRAKE INSPECTION AND ADJUSTMENT

INSPECTION

1. Pull the parking brake lever (A) with 196 N (20 kgf, 44 lbf) of force to fully apply the parking brake. The parking brake lever should be locked within the specified number of clicks.

   Lever locked clicks: 8 to 10

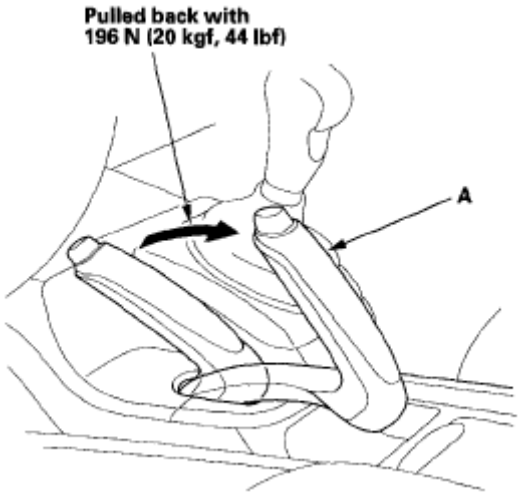


Fig. 7: Inspecting Parking Brake (With Specifications)

2. If the number of lever clicks is excessive, adjust the parking brake.

ADJUSTMENT - REAR DISC BRAKE TYPE

1. Remove the center console panel (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
2. Release the parking brake lever fully.
3. Loosen the parking brake adjusting nut (A).

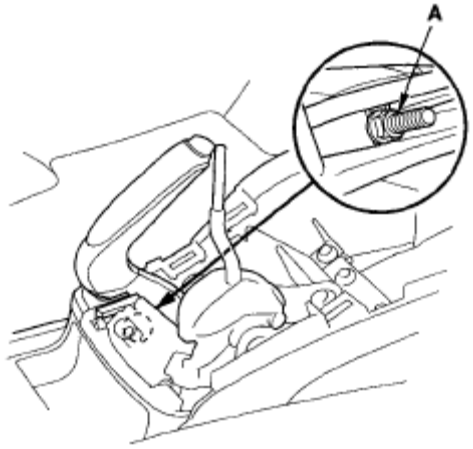


Fig. 8: Loosening Parking Brake Adjusting Nut

4. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
5. Remove the rear wheels.
6. Make sure the parking brake lever (A) on the rear brake caliper contacts the stop pin (B).

NOTE: The parking brake lever will only contact the stop pin when the parking brake adjusting nut is loosened.

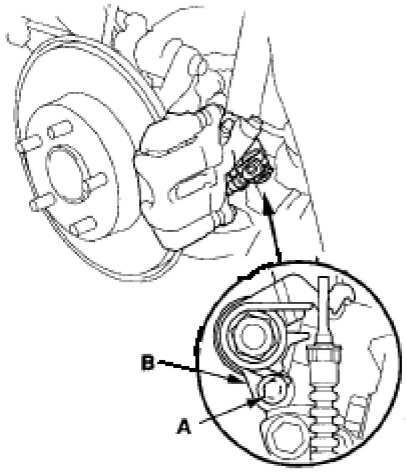


Fig. 9: Making Sure Parking Brake Lever On Rear Brake Caliper Contacts Stop Pin

7. Install the rear wheels.

8. Pull the parking brake lever 1 click.
9. Tighten the parking brake adjusting nut until the parking brakes drag slightly when the rear wheels are turned.
10. Release the parking brake lever fully, and check that the parking brakes do not drag when the rear wheels are turned. Readjust if necessary.
11. Make sure the parking brakes are fully applied when the parking brake lever is pulled all the way (8 to 10 clicks).
12. Install the center console panel (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

ADJUSTMENT - REAR DRUM BRAKE TYPE

1. Remove the center console panel (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
2. Release the parking brake lever fully.
3. Loosen the parking brake adjusting nut (A).

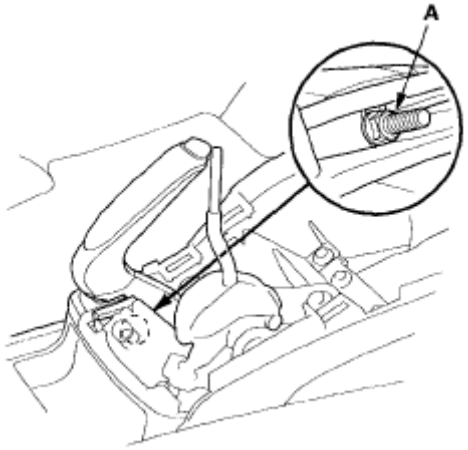


Fig. 10: Loosening Parking Brake Adjusting Nut

4. Press the brake pedal several times to set the self-adjusting brake before adjusting the parking brake.
5. Pull the parking brake lever 1 click.
6. Tighten the parking brake adjusting nut until the parking brakes drag slightly when the rear wheels are turned.

7. Release the parking brake lever fully, and check that the parking brakes do not drag when the rear wheels are turned. Readjust if necessary.
8. Make sure the parking brakes are fully applied when the parking brake lever is pulled all the way (8 to 10 clicks).
9. Install the center console panel (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

BRAKE SYSTEM BLEEDING

NOTE:

- **Do not reuse the drained fluid. Use only clean Honda DOT 3 Brake Fluid from an unopened container. Using a non-Honda brake fluid can cause corrosion and shorten the life of the system.**
- **Do not mix different brands of brake fluid; they may not be compatible.**
- **Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.**
- **Do not spill brake fluid on the vehicle, it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.**
- **The reservoir connected to the master cylinder must be at the MAX (upper) level mark at the start of the bleeding procedure and checked after bleeding each brake system. Add fluid as required.**

1. Make sure the brake fluid level in the reservoir (A) is at the MAX (upper) level line (B).

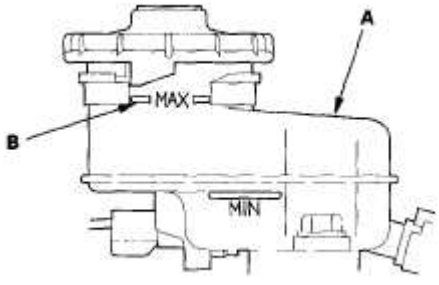


Fig. 11: Identifying Brake Fluid Level In Reservoir Is At MAX (Upper) Level Line

2. Have someone slowly pump the brake pedal several times, then apply steady pressure.
3. Start the bleeding at the driver's side of the front brake system.

NOTE: Bleed the calipers or the wheel cylinders in the sequence shown.

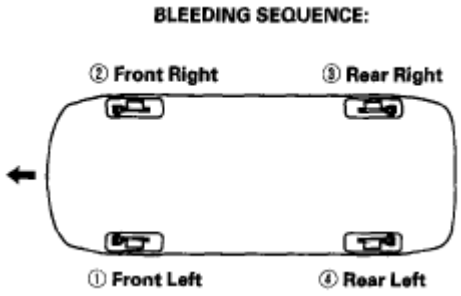


Fig. 12: Bleeding Calipers Or Wheel Cylinder In Sequence

4. Attach a length of clear drain tube (A) to the bleed screw (B), then, loosen the bleed screw to allow air to escape from the system. Then tighten the bleed screw securely.

Front

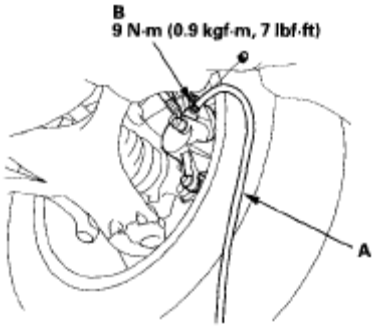


Fig. 13: Attaching Clear Drain Tube To Bleed Screw (Front) (With Specifications)

Rear-disc type

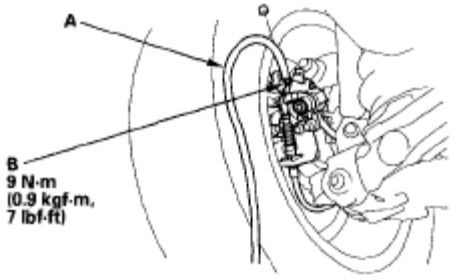


Fig. 14: Attaching Clear Drain Tube To Bleed Screw (Rear-Disc Type) (With Specifications)

Rear-drum type

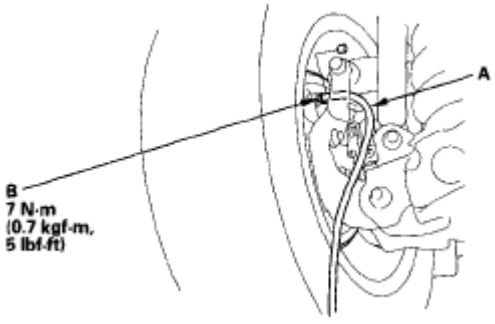


Fig. 15: Attaching Clear Drain Tube To Bleed Screw (Rear-Drum Type) (With Specifications)

5. Refill the master cylinder reservoir to the MAX (upper) level line.
6. Repeat the procedure for each brake circuit until no air bubbles are in the fluid.

BRAKE SYSTEM INDICATOR CIRCUIT DIAGRAM

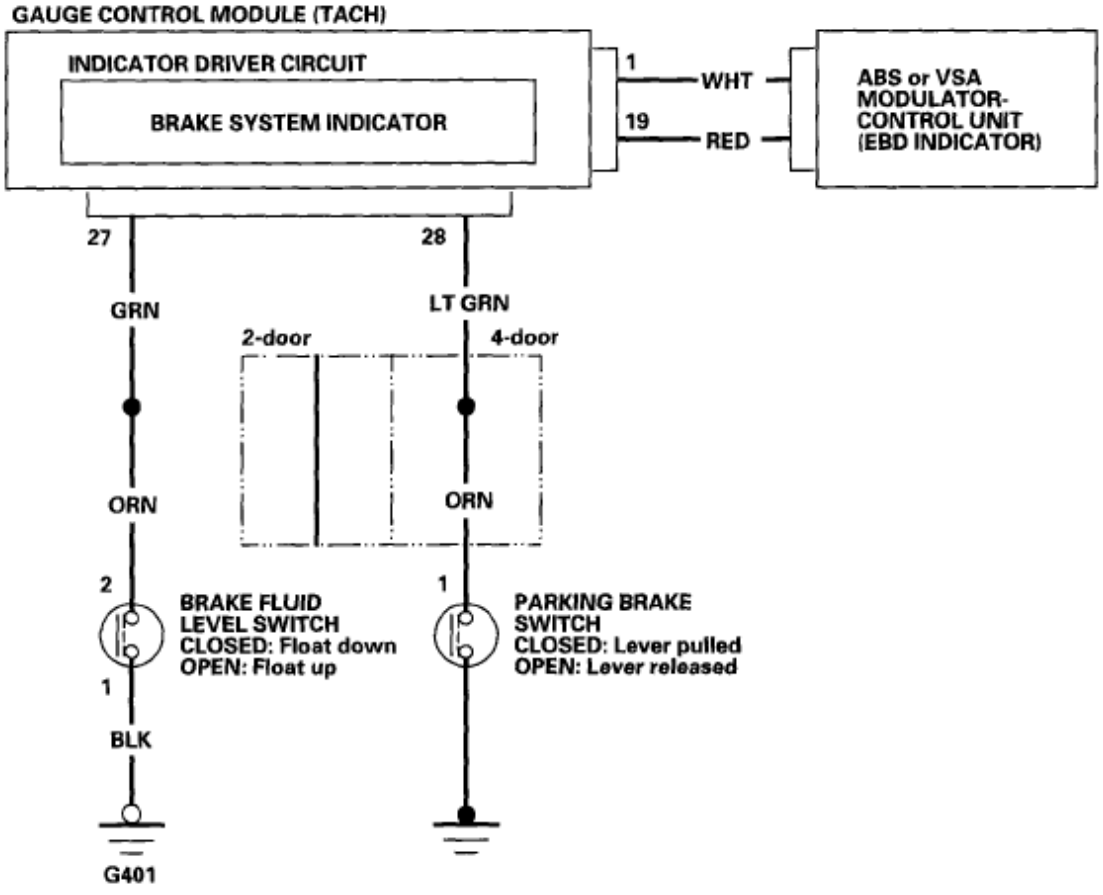


Fig. 16: Identifying Brake System Indicator Circuit Diagram

PARKING BRAKE SWITCH TEST

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
2. Disconnect the parking brake switch connector (A) from the parking brake switch (B).

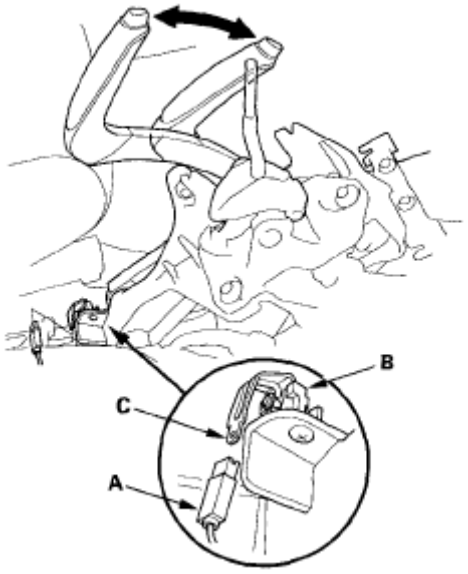


Fig. 17: Disconnecting Parking Brake Switch Connector From Parking Brake Switch

3. Check for continuity between the positive terminal (C) and body ground.
   - With the parking brake lever pulled, there should be continuity.
   - With the parking brake lever released, there should be no continuity.

NOTE:

- **If both the ABS indicator and the brake system indicator come on at the same time, check the ABS or VSA system first: ABS (see GENERAL TROUBLESHOOTING INFORMATION), VSA (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If the parking brake switch and fluid level switch are OK, but the brake system indicator does not function, check the ABS or VSA system: ABS (see GENERAL TROUBLESHOOTING INFORMATION), VSA (see GENERAL TROUBLESHOOTING INFORMATION).**

4. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

BRAKE FLUID LEVEL SWITCH TEST

Check for continuity between the terminals (1) and (2) with the float in the down position and in the up position.

NOTE:

- **Remove the brake fluid completely from the reservoir. With the float down, there should be continuity.**
- **Fill the reservoir with brake fluid to the MAX (upper) level (A). With the float up, there should be no continuity.**
- **If both the ABS indicator and the brake system indicator come on at same time, check the ABS or VSA system first: ABS (see GENERAL TROUBLESHOOTING INFORMATION), VSA (see GENERAL TROUBLESHOOTING INFORMATION).**
- **If the parking brake switch and fluid level switch are OK, but brake system indicator does not function, check the ABS or VSA system: ABS (see GENERAL TROUBLESHOOTING INFORMATION), VSA (see GENERAL TROUBLESHOOTING INFORMATION).**

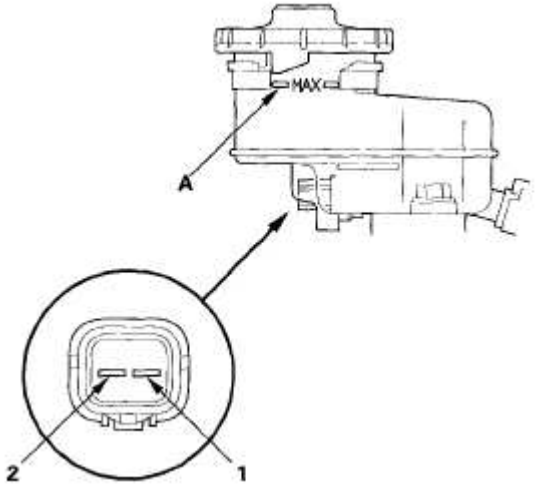


Fig. 18: Testing Brake Fluid Level Switch

FRONT BRAKE PAD INSPECTION AND REPLACEMENT

Special Tools Required

Brake caliper piston compressor 07AAE-SEPA101

CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

INSPECTION - EXCEPT SI MODEL

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
2. Remove the front wheels.
3. Check the thickness (A) of the inner pad (B) and outer pad (C). Do not include the thickness of the backing plate.

Brake pad thickness:

Standard: 9.6-10.2 mm (0.38-0.40 in.)
Service limit: 1.6 mm (0.06 in.)

Inner pad

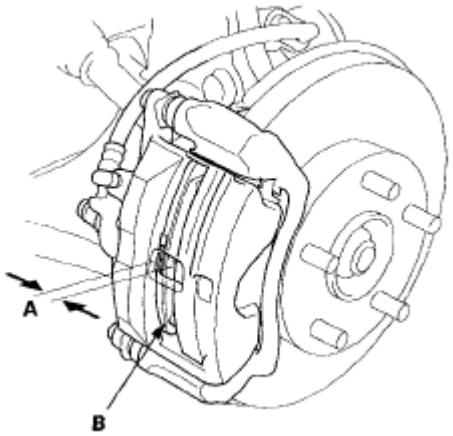


Fig. 19: Identifying Inner Pad Thickness

Outer pad

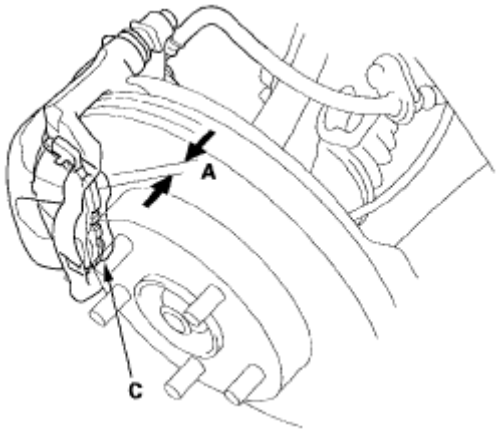


Fig. 20: Identifying Outer Pad Thickness

4. If the brake pad thickness is less than the service limit, replace the front brake pads as a set.

REPLACEMENT - EXCEPT SI MODEL

1. Remove some brake fluid from the master cylinder.
2. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
3. Remove the front wheels.
4. Remove the flange bolt (A), and pivot the caliper (B) up out of the way. Check

the hose and pin boots for damage and deterioration.

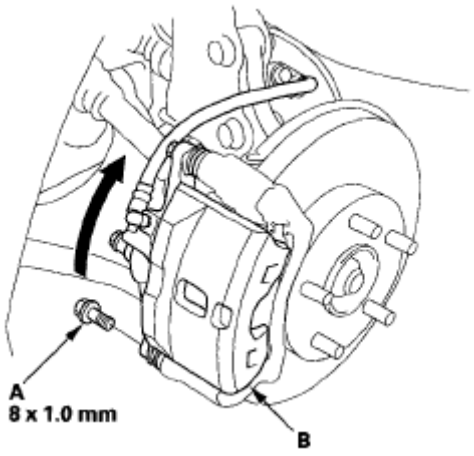


Fig. 21: Removing Flange Bolt And Pivot Caliper

5. Remove the pad shims (A) and brake pads (B).

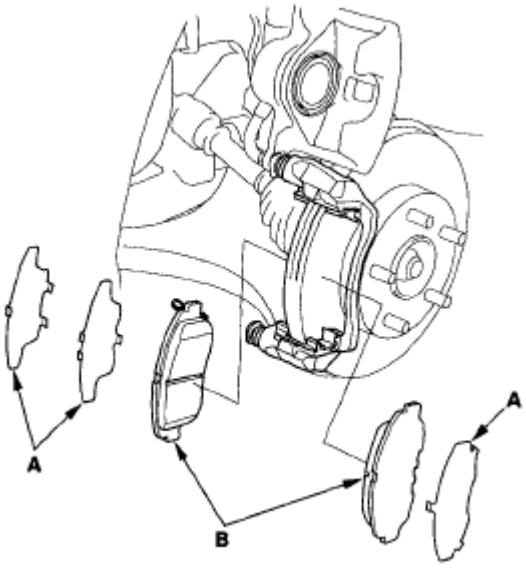


Fig. 22: Removing Pad Shims And Brake Pads

6. Remove the pad retainers (A).

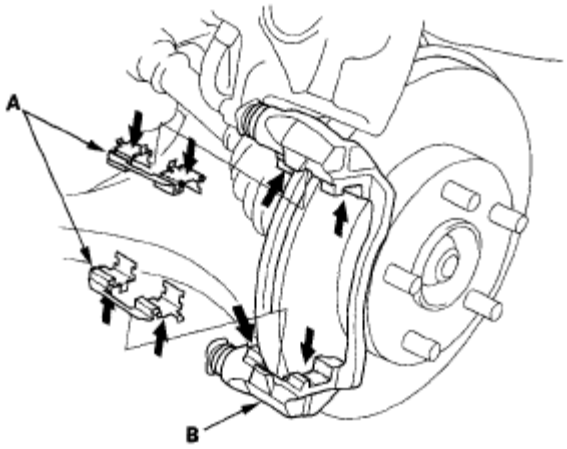


Fig. 23: Removing Pad Retainers

7. Clean the caliper bracket (B) thoroughly; remove any rust, and check for grooves and cracks.
8. Check the brake disc for damage and cracks.
9. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the retainers on their mating surfaces (indicated by the arrows) against the caliper bracket.
10. Install the pad retainers. Wipe excess assembly paste off the retainers. Keep the assembly paste off the discs and pads.
11. Mount the brake caliper piston compressor (A) on the caliper body (B).

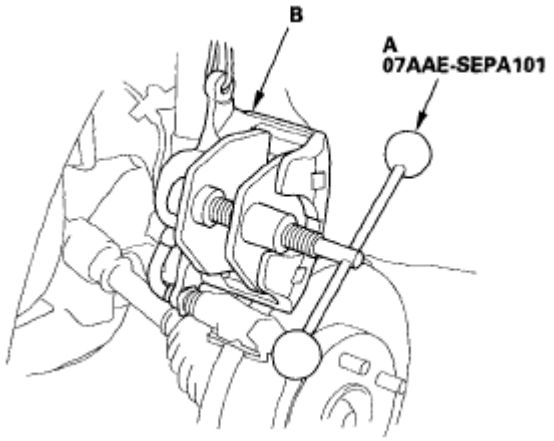


Fig. 24: Mounting Brake Caliper Piston Compressor On Caliper Body

12. Press in the piston with the brake caliper piston compressor so the caliper will fit over the brake pads. Make sure the piston boot is in position to prevent

damaging it when pivoting the caliper down.

NOTE: Be careful when pressing in the piston; brake fluid might overflow from the master cylinder's reservoir.

13. Remove the brake caliper piston compressor.
14. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the pad side of the shims (A), the back of the brake pads (B) and the other areas indicated by the arrows. Wipe excess assembly paste off the pad shims and brake pads. Contaminated brake discs or brake pads reduce stopping ability. Keep grease and assembly paste off the brake discs and brake pads.

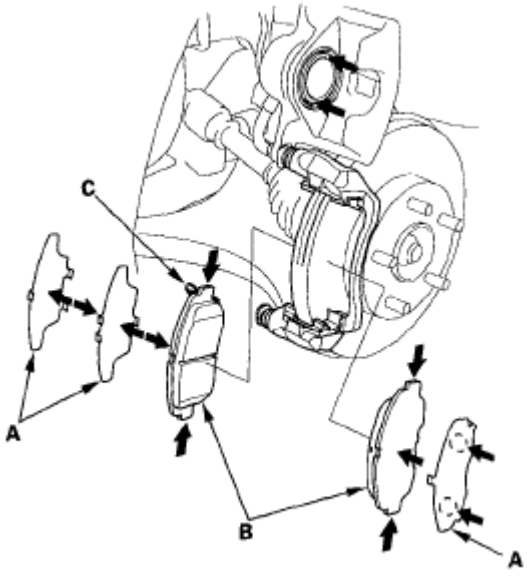


Fig. 25: Applying Assembly Paste To Pad Shims And Brake Pads

15. Install the brake pads and pad shims correctly. Install the brake pad with the wear indicator (C) on the upper inside. If you are reusing the brake pads, always reinstall the brake pads in their original positions to prevent a temporary loss of braking efficiency.
16. Pivot the caliper down into position. Install the flange bolt (A), and tighten it to the specified torque.

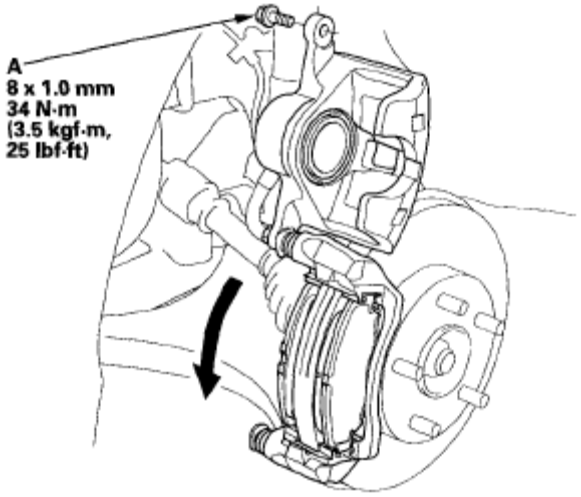


Fig. 26: Installing Flange Bolt (With Specifications)

17. Press the brake pedal several times to make sure the brakes work.

NOTE: Engagement may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.

18. Add brake fluid as needed.
19. After installation, check for leaks at the hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks (see **BRAKE HOSE AND LINE INSPECTION**).

INSPECTION - SI MODEL

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
2. Remove the front wheels.
3. Check the thickness (A) of the inner pad (B) and outer pad (C). Do not include the thickness of the backing plate.

Brake pad thickness:

Standard: 9.0-9.7 mm (0.35-0.38 in.)

Service limit: 1.6 mm (0.06 in.)

Inner pad

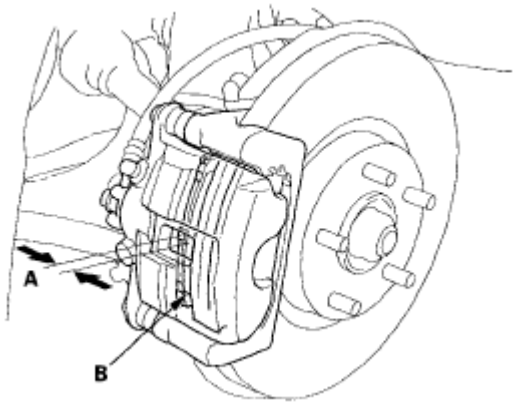


Fig. 27: Checking Inner Pad Thickness

Outer pad

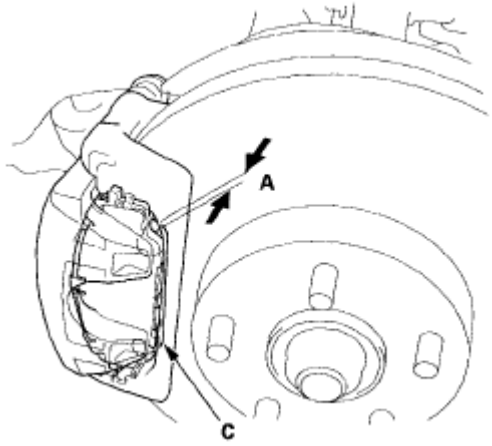


Fig. 28: Checking Outer Pad Thickness

4. If the brake pad thickness is less than the service limit, replace the front brake pads as a set.

REPLACEMENT - SI MODEL

1. Remove some brake fluid from the master cylinder.
2. Raise the front of the vehicle, and support it with safety stands in the proper

locations (see **LIFT AND SUPPORT POINTS**).

3. Remove the front wheels.
4. Remove the flange bolt (A) while holding the caliper pin (B) with a wrench. Be careful not to damage the pin boot, and pivot the caliper (C) up out of the way. Check the hose and pin boots for damage and deterioration.

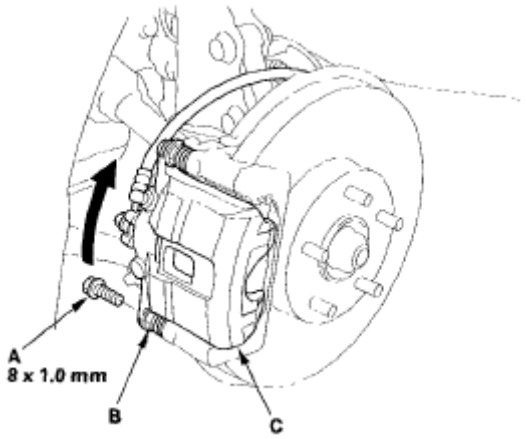


Fig. 29: Removing Flange Bolt Holding Caliper Pin With Wrench

5. Remove the pad shims (A) and brake pads (B).

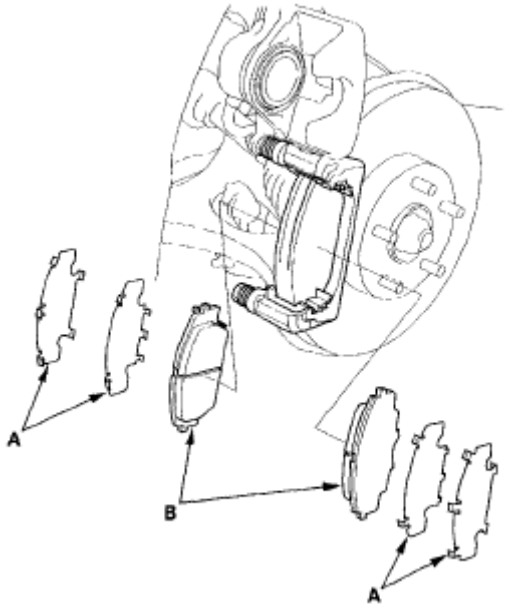


Fig. 30: Removing Pad Shims And Brake Pads

6. Remove the pad retainers (A).

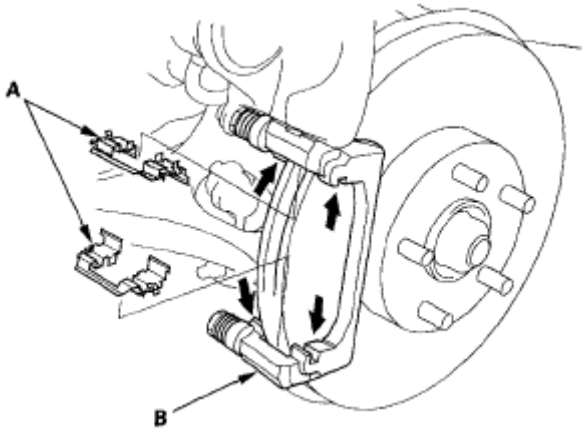


Fig. 31: Removing Pad Retainers

7. Clean the caliper bracket (B) thoroughly; remove any rust, and check for grooves and cracks.
8. Check the brake disc for damage and cracks.
9. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the retainers on their mating surfaces (indicated by the arrows) against the caliper bracket.
10. Install the pad retainers. Wipe excess assembly paste off the retainers. Keep the assembly paste off the discs and pads.
11. Mount the brake caliper piston compressor (A) on the caliper body (B).

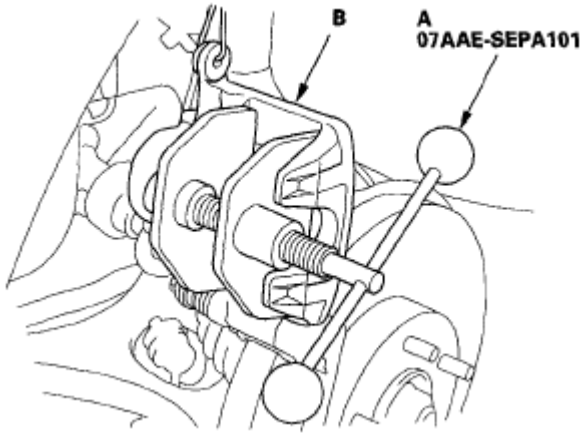


Fig. 32: Mounting Brake Caliper Piston Compressor On Caliper Body

12. Press in the piston with the brake caliper piston compressor so the caliper will

fit over the brake pads. Make sure the piston boot is in position to prevent damaging it when pivoting the caliper down.

NOTE: Be careful when pressing in the piston; brake fluid might overflow from the master cylinder's reservoir.

13. Remove the brake caliper piston compressor.
14. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the pad side of the shims (A), the back of the brake pads (B) and the other areas indicated by the arrows. Wipe excess assembly paste off the pad shims and brake pads. Contaminated brake discs or brake pads reduce stopping ability. Keep grease and assembly paste off the brake discs and brake pads.

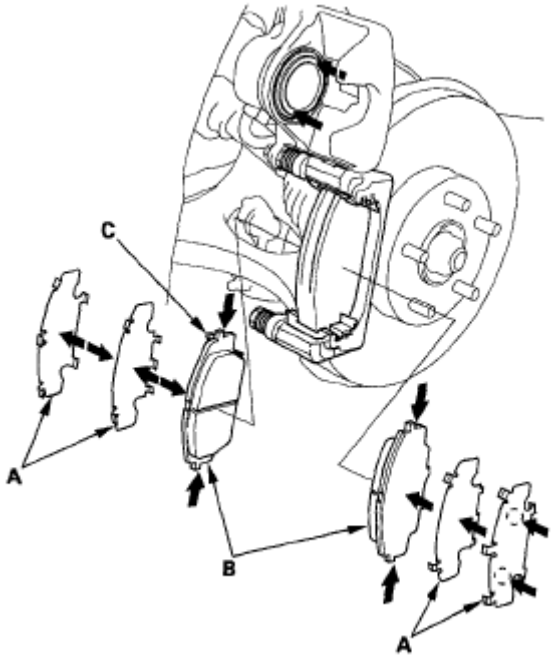


Fig. 33: Applying Assembly Paste To Pad Side Of Shims And Brake Pads

15. Install the brake pads and pad shims correctly. Install the brake pad with the wear indicator (C) on the upper inside. If you are reusing the brake pads, always reinstall the brake pads in their original positions to prevent a temporary loss of braking efficiency.
16. Pivot the caliper down into position. Install the flange bolt (A), and tighten it to the specified torque while holding the caliper pin (B), with a wrench. Be

careful not to damage the pin boot.

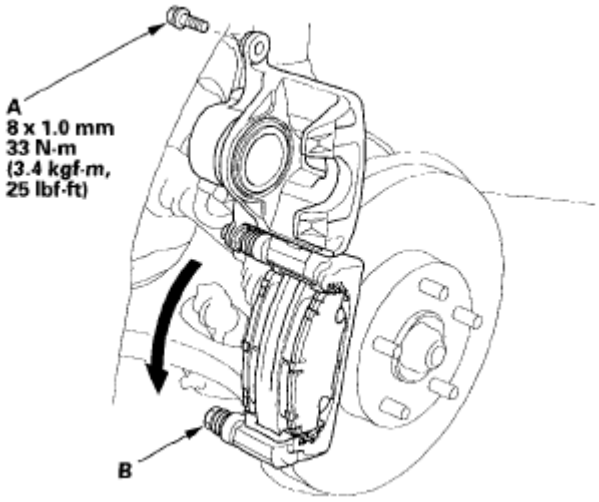


Fig. 34: Installing Flange Bolt (With Specifications)

17. Press the brake pedal several times to make sure the brakes work.

NOTE: Engagement may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.

18. Add brake fluid as needed.
19. After installation, check for leaks at the hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks (see **BRAKE HOSE AND LINE INSPECTION**).

FRONT BRAKE DISC INSPECTION

RUNOUT

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
2. Remove the front wheels.
3. Remove the brake pads: Except Si model (see **REPLACEMENT - EXCEPT SI MODEL**), Si model (see **REPLACEMENT - SI MODEL**).

4. Inspect the brake disc surface for damage and cracks. Clean the brake disc thoroughly, and remove all rust.
5. Install suitable flat washers (A) and wheel nuts (B), and tighten the wheel nuts to the specified torque to hold the brake disc securely against the hub.

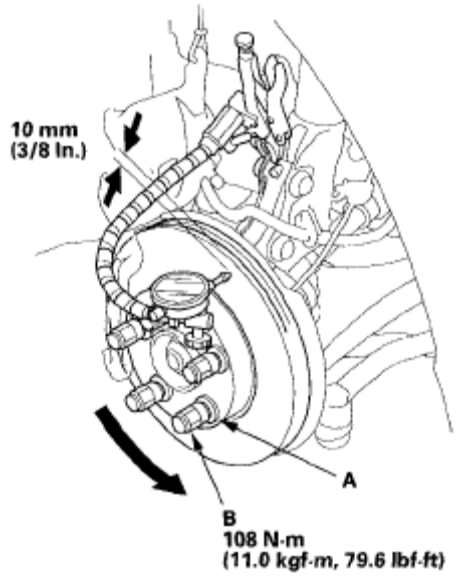


Fig. 35: Installing Flat Washers And Wheel Nuts (With Specifications)

6. Set up the dial gauge against the brake disc as shown, and measure the runout at 10 mm (3/8 in.) from the outer edge of the brake disc.

   Brake disc runout:

   Service limit: 0.04 mm (0.0016 in.)

7. If the brake disc is beyond the service limit, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-Way Manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation.

   Max. refinishing limit:

   Except Si model: 19.0 mm (0.75 in.)
   Si model: 23.0 mm (0.91 in.)

NOTE:

- **If the brake disc is beyond the service limit for refinishing, replace it (see KNUCKLE/HUB REPLACEMENT).**
- **A new brake disc should be refinished if its runout is greater than 0.04 mm (0.0016 in.).**

THICKNESS AND PARALLELISM

1. Raise the front of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
2. Remove the front wheels.
3. Remove the brake pads: Except Si model (see **REPLACEMENT - EXCEPT SI MODEL**), Si model (see **REPLACEMENT - SI MODEL**).
4. Using a micrometer, measure the brake disc thickness at eight points, about 45° apart and 10 mm (3/8 in.) in from the outer edge of the brake disc. Replace the brake disc if the smallest measurement is less than the max. refinishing limit.

   Brake disc thickness:

   Standard:

   Except Si model: 20.9-21.1 mm (0.82-0.83 in.)
   Si model: 24.9-25.1 mm (0.98-0.99 in.)

   Max. refinishing limit:

   Except Si model: 19.0 mm (0.75 in.)
   Si model: 23.0 mm (0.91 in.)

   Brake disc parallelism: 0.015 mm (0.0006 in.) max.

   NOTE: This is the maximum allowable difference between the thickness measurements.

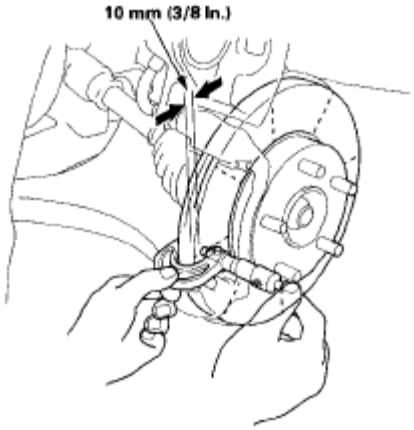


Fig. 36: Measuring Brake Disc Thickness At Eight Points By Micrometer

5. If the brake disc is beyond the service limit for parallelism, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-Way Manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation.

NOTE: If the brake disc is beyond the service limit for refinishing, replace it (see KNUCKLE/HUB REPLACEMENT).

FRONT BRAKE CALIPER OVERHAUL

CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

EXCEPT SI MODEL

Remove, disassemble, inspect, reassemble, and install the caliper, and note these items:

NOTE: Make sure that the caliper pins are installed correctly. Upper caliper pin B and lower caliper pin A are different. If the these caliper pins are installed in the wrong location, it will cause vibration, uneven or rapid brake pad wear, and possibly uneven tire wear.

- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.
- To prevent dripping brake fluid, cover disconnected hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dirt and other foreign particles.
- Replace parts with new ones as specified in the illustration.
- Make sure no dirt or other foreign matter gets in the brake fluid.
- Make sure no grease or oil gets on the brake discs or pads.
- When reusing brake pads, always reinstall them in their original positions to prevent loss of braking efficiency.
- Do not reuse drained brake fluid. Use only clean Honda DOT 3 Brake Fluid from an unopened container. Using a non-Honda brake fluid can cause corrosion and shorten the life of the system.
- Do not mix different brands of brake fluid as they may not be compatible.
- Coat the pistons, piston seal grooves, and caliper bores with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
- After installing the caliper, check the brake hose and line for leaks, interference, and twisting.

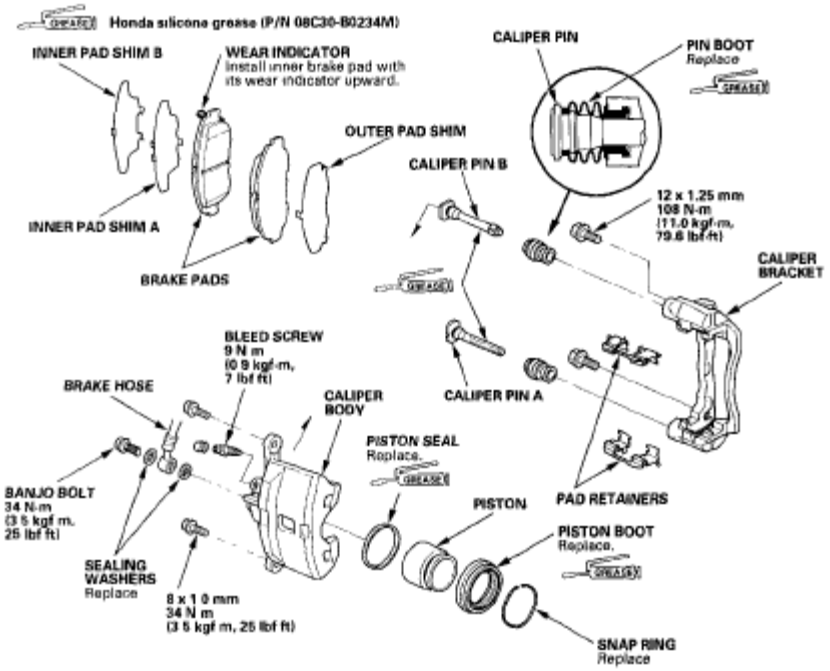


Fig. 37: Exploded View Of Front Brake Caliper Overhaul (Except Si Model) (With Specifications)

CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

SI MODEL

Remove, disassemble, inspect, reassemble, and install the caliper, and note these items:

NOTE: Make sure that the caliper pins are installed correctly. Upper caliper pin B and lower caliper pin A are different. If the these caliper pins are installed in the wrong location, it will cause vibration, uneven or rapid brake pad wear, and

possibly uneven tire wear.

- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.
- To prevent dripping brake fluid, cover disconnected hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dirt and other foreign particles.
- Replace parts with new ones as specified in the illustration.
- Make sure no dirt or other foreign matter gets in the brake fluid.
- Make sure no grease or oil gets on the brake discs or pads.
- When reusing brake pads, always reinstall them in their original positions to prevent loss of braking efficiency.
- Do not reuse drained brake fluid. Use only clean Honda DOT 3 Brake Fluid from an unopened container. Using a non-Honda brake fluid can cause corrosion and shorten the life of the system.
- Do not mix different brands of brake fluid as they may not be compatible.
- Coat the pistons, piston seal grooves, and caliper bores with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
- After installing the caliper, check the brake hose and line for leaks, interference, and twisting.

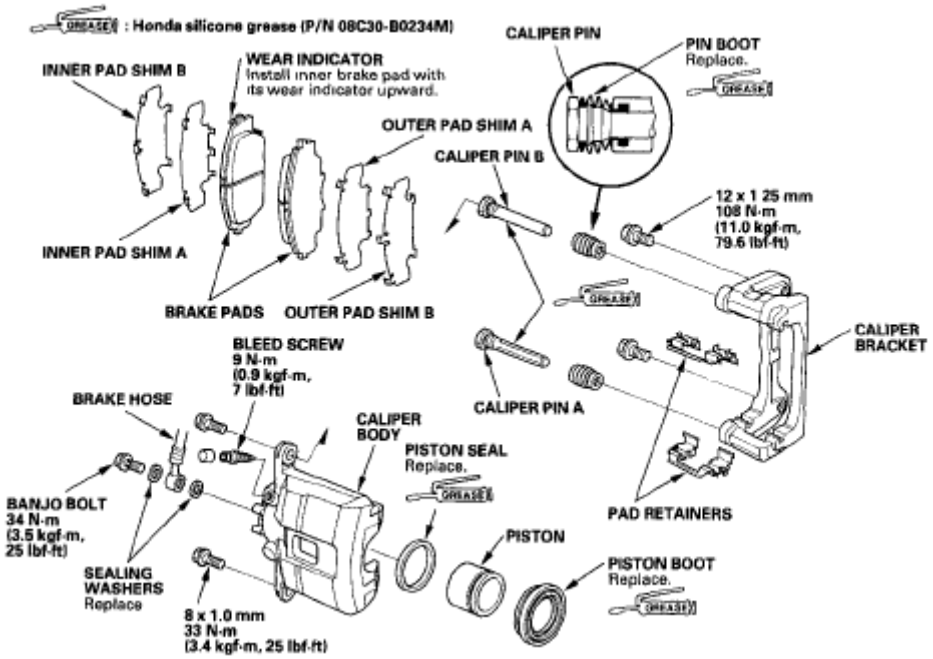


Fig. 38: Exploded View Of Front Brake Caliper Overhaul (Si Model) (With Specifications)

MASTER CYLINDER REPLACEMENT

NOTE:

- **Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.**
- **Be careful not to damage or deform the brake lines during removal and installation.**
- **To prevent the brake fluid from flowing, plug and cover the hose ends and joints with a shop towel or equivalent.**

1. Remove the air cleaner: Except Si model (see **AIR CLEANER REMOVAL/INSTALLATION**), Si model (see **AIR CLEANER REMOVAL/INSTALLATION**).
2. Remove the reservoir cap and brake fluid from the master cylinder reservoir with a syringe.
3. Disconnect the brake fluid level switch connector (A).

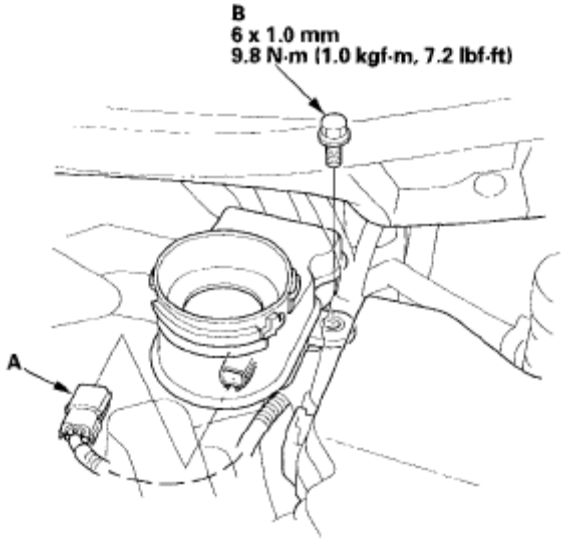


Fig. 39: Disconnecting Brake Fluid Level Switch Connector (With Specifications)

4. Remove the reservoir tank mounting bolt (B).
5. Disconnect the brake lines (A) from the master cylinder (B). To prevent spills, cover the hose joints with rags or shop towels.

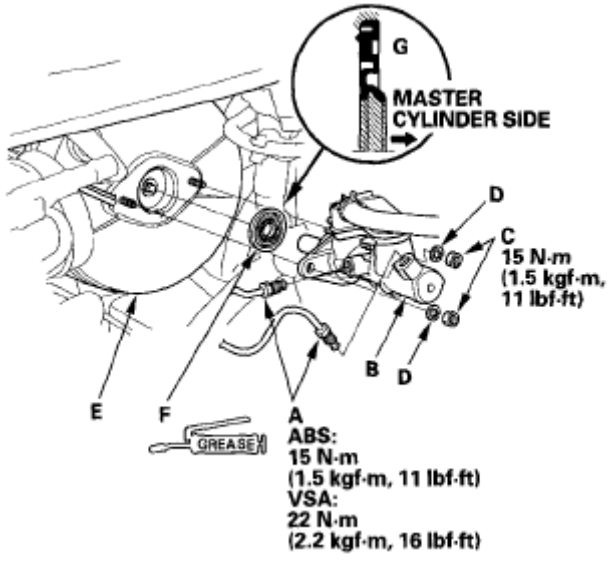


Fig. 40: Disconnecting Brake Lines From Master Cylinder (With Specifications)

6. Remove the master cylinder mounting nuts (C) and washers (D).

7. Remove the master cylinder from the brake booster (E). Be careful not to bend or damage the brake lines when removing the master cylinder.
8. Remove the rod seal (F) from the master cylinder.

NOTE: During installation, set the new rod seal onto the master cylinder with its grooved side (G) toward the master cylinder.

9. Install the master cylinder in the reverse order of removal, and note these items:
   - Use a new rod seal on reassembly.
   - Coat the inner bore lip and outer circumference of the new rod seal with the Shin-Etsu silicone grease (P/N 08798-9013).
   - Check the brake pedal height and free play after installing the master cylinder, and adjust if necessary (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT**).
10. Bleed the brake system (see **BRAKE SYSTEM BLEEDING**).
11. Spin the wheels to check for brake drag.

MASTER CYLINDER INSPECTION

1. Inspect and note these items:
   - Before reassembling, check that all parts are free of dirt and other foreign particles.
   - Do not try to disassemble the master cylinder assembly. Replace the master cylinder assembly with a new part if necessary.
   - Do not allow dirt or foreign matter to contaminate the brake fluid.

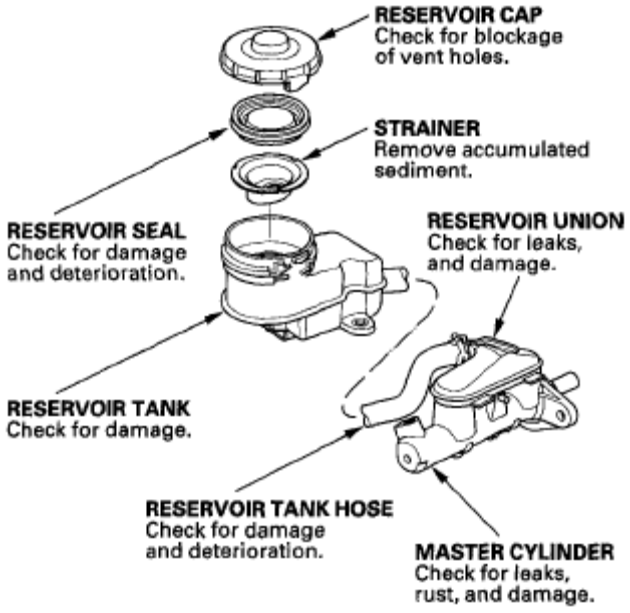


Fig. 41: Inspecting Master Cylinder

2. If the reservoir tank hose was disconnected, install the reservoir tank (A) and the reservoir tank hose (B) to the reservoir union (C).

NOTE:

- **Align the "TRIANGLE" marks (D) on the reservoir tank and reservoir union with the paint marks (E) on the hose.**
- **Position the direction of the clamp (F).**

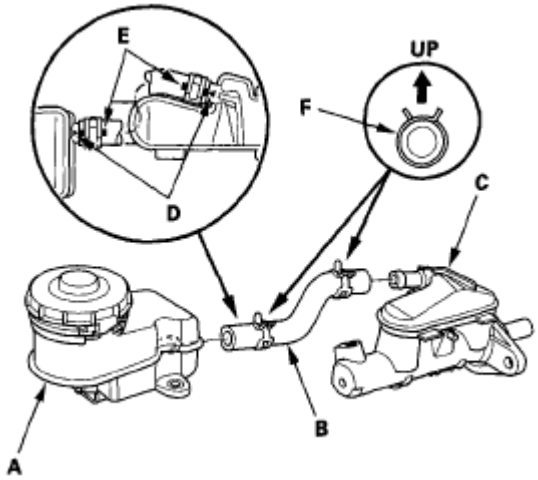


Fig. 42: Installing Reservoir Tank And Hose To

Reservoir Union

BRAKE BOOSTER TEST

FUNCTIONAL TEST

1. With the engine stopped, press the brake pedal several times to deplete the vacuum reservoir, then press the brake pedal hard, and hold it for 15 seconds. If the brake pedal sinks, either the master cylinder is bypassing internally, or the brake system is leaking. Inspect the brake hoses and lines (see **BRAKE HOSE AND LINE INSPECTION**).
2. Start the engine with the brake pedal pressed. If the brake pedal sinks slightly, the vacuum booster is operating normally. If the brake pedal height does not vary, do the leak test.
3. Do the brake system test (see **BRAKE SYSTEM INSPECTION AND TEST**).

LEAK TEST

1. Press the brake pedal with the engine running, then stop the engine. If the brake pedal height does not vary while pressed for 30 seconds, the vacuum booster is OK. If the pedal height rises go to step 6. If it does not rise go to step 2.
2. Start the engine and let it idle for 30 seconds. Turn the ignition switch off, and wait 30 seconds. Press the brake pedal several times using normal pressure. When the pedal is first pressed, it should be low. On consecutive applications, the pedal height should gradually rise. Does the pedal rise on each consecutive application? If it rises the booster is OK. If it does not go to step 3.
3. Disconnect the brake booster vacuum hose (A) at the booster. The check valve is built into the hose.

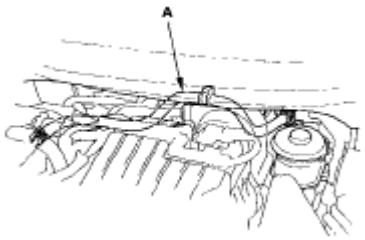


Fig. 43: Disconnecting Brake Booster Vacuum Hose At Booster

4. Start the engine, and let it idle. There should be vacuum available. If no vacuum is available, the check valve is not working properly. Replace the brake booster vacuum hose and check valve, and retest. If vacuum is found, go to step 5.
5. With the engine off, reconnect the vacuum hose to the brake booster.
6. Start the engine, and then pinch the brake booster vacuum hose between the check valve and the booster.
7. Turn the ignition switch off, and wait 30 seconds. Press the brake pedal several times using normal pressure. When the pedal is first pressed, it should be low. On consecutive applications, the pedal height should gradually rise.
   - If the pedal position does not vary inspect the seal between the master cylinder and booster. If the seal is OK, replace the brake booster.
   - If the pedal position varies, replace the brake booster vacuum hose/check valve assembly.

BRAKE BOOSTER REPLACEMENT

EXCEPT SI MODEL

1. Remove the master cylinder (see **MASTER CYLINDER REPLACEMENT**).
2. Disconnect the brake booster vacuum hose (A) from the brake booster (B).

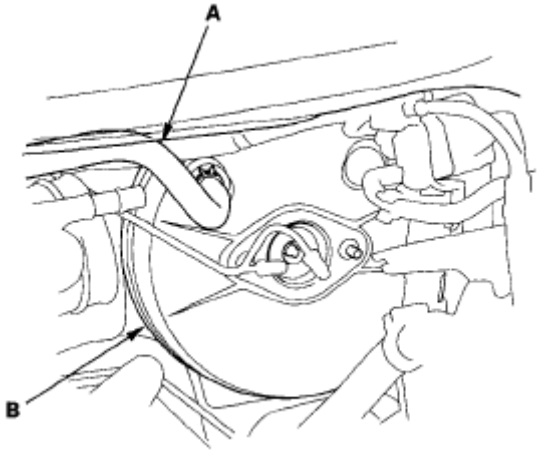


Fig. 44: Disconnecting Brake Booster Vacuum Hose From Brake Booster

3. Remove the engine wire harness clamps (A).

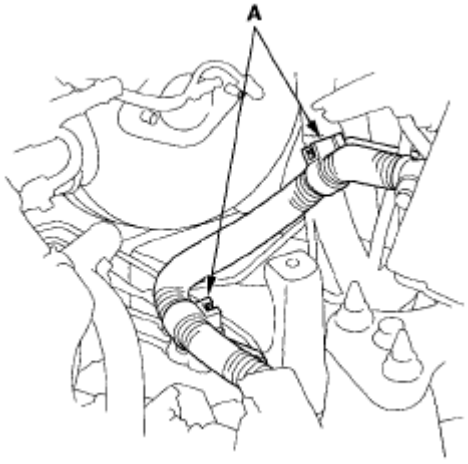


Fig. 45: Removing Engine Wire Harness Clamps

4. Remove the heater hoses (A) from the clamp (B).

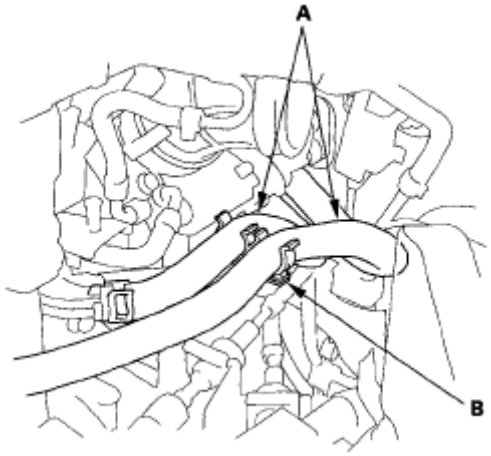


Fig. 46: Removing Heater Hoses From Clamp

5. Remove the lock pin (A) and the joint pin (B), then disconnect the yoke from the brake pedal.

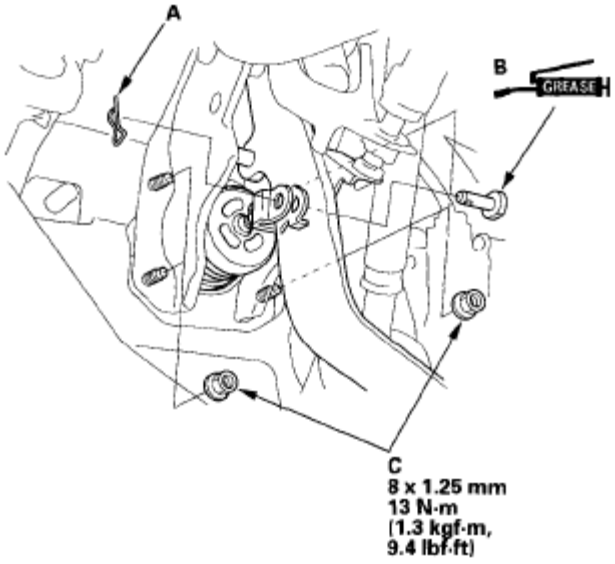


Fig. 47: Removing Lock Pin And Joint Pin (With Specifications)

6. Remove the brake booster mounting nuts (C).
7. Pull the brake booster (A) forward.

NOTE:

- **Be careful not to damage the booster surfaces and the threads on the booster studs.**
- **Be careful not to bend or damage the brake lines.**

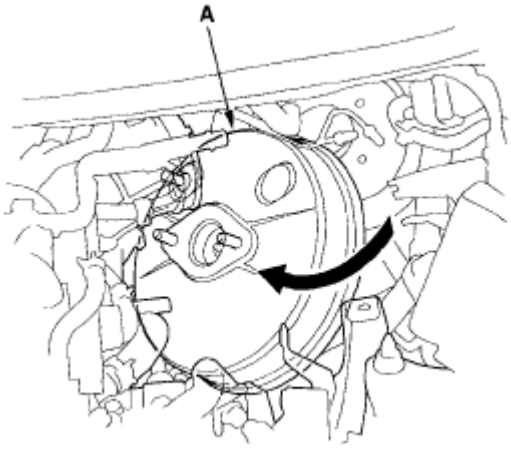


Fig. 48: Pulling Brake Booster Forward

8. Remove the brake booster (A) by pulling it out and turning it, and remove it from the engine compartment.

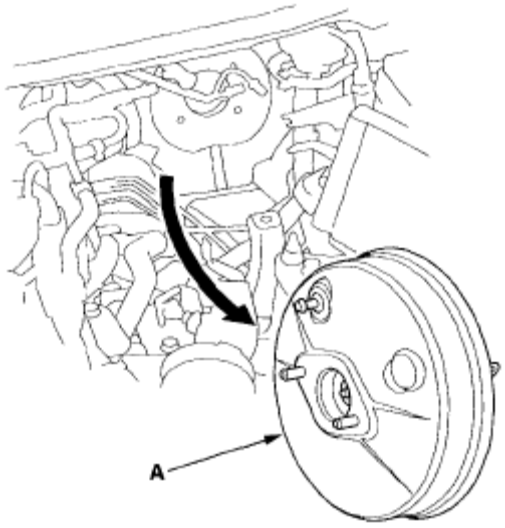


Fig. 49: Removing Brake Booster

9. Install the brake booster in the reverse order of removal, and note these items:
   - Install the master cylinder after installing the brake booster (see **MASTER CYLINDER REPLACEMENT**).
   - Check the brake pedal height and free play after installing the master cylinder, and adjust it if necessary (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT**).
   - Bleed the brake system (see **BRAKE SYSTEM BLEEDING**).

SI MODEL

1. Remove the master cylinder (see **MASTER CYLINDER REPLACEMENT**).
2. Disconnect the brake booster vacuum hose (A) from the brake booster (B).

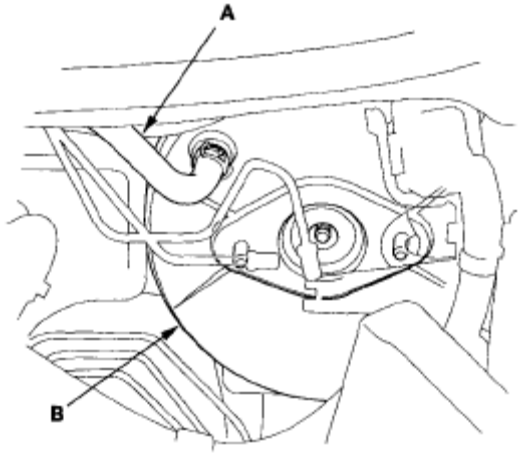


Fig. 50: Disconnecting Brake Booster Vacuum Hose

3. Remove the engine wire harness clamps (A).

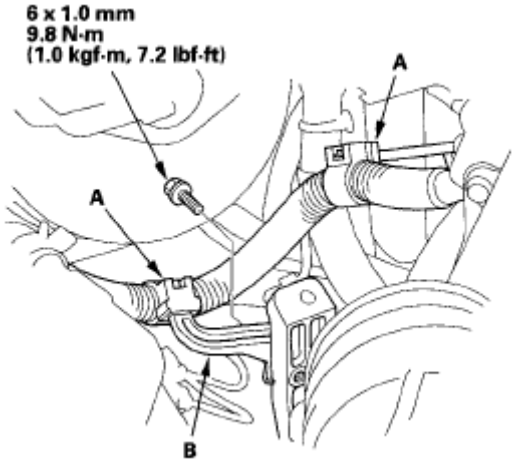


Fig. 51: Removing Engine Wire Harness Clamps (With Specifications)

4. Remove the air cleaner bracket (B).
5. Remove the lock pin (A) and the joint pin (B), then disconnect the yoke from the brake pedal.

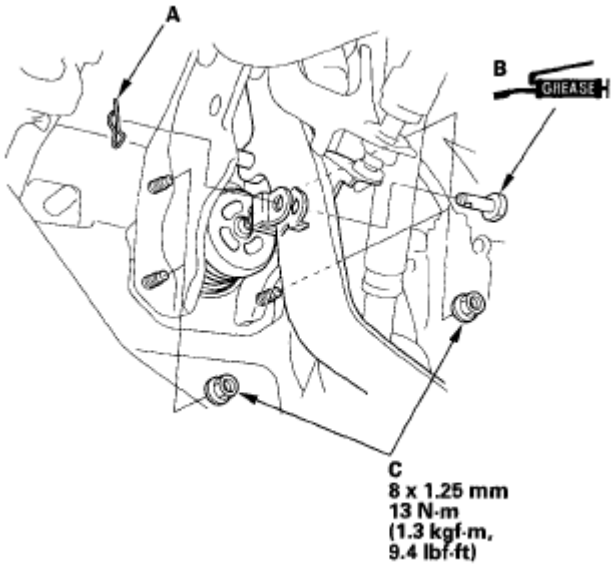


Fig. 52: Removing Lock Pin And Joint Pin (With Specifications)

6. Remove the brake booster mounting nuts (C).
7. Pull the brake booster (A) forward.

NOTE:

- **Be careful not to damage the booster surfaces and the threads on the booster studs.**
- **Be careful not to bend or damage the brake lines.**

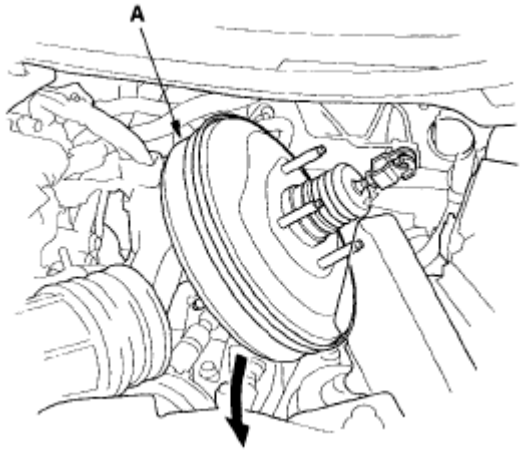


Fig. 53: Pulling Brake Booster Forward

8. Remove the brake booster by pulling it out and turning it, and remove it from

the engine compartment.

9. Install the brake booster in the reverse order of removal, and note these items:
   - Install the master cylinder after installing the brake booster (see **MASTER CYLINDER REPLACEMENT**).
   - Check the brake pedal height and free play after installing the master cylinder, and adjust it if necessary (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT**).
   - Bleed the brake system (see **BRAKE SYSTEM BLEEDING**).

REAR BRAKE PAD INSPECTION AND REPLACEMENT

CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

INSPECTION

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
2. Remove the rear wheels.
3. Check the thickness (A) of the inner pad (B) and outer pad (C). Do not include the thickness of the backing plate.

Brake pad thickness:

Standard: 8.3-9.4 mm (0.33-0.37 in.)

Service limit: 1.6 mm (0.06 in.)

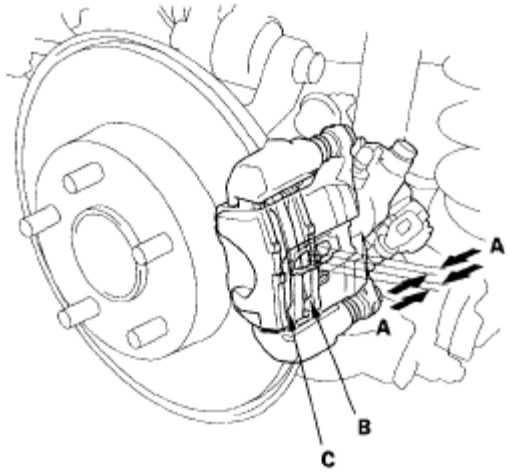


Fig. 54: Checking Thickness Of Inner Pad And Outer Pad

4. If the brake pad thickness is less than the service limit, replace all the rear brake pads as a set.

REPLACEMENT

1. Remove some brake fluid from the master cylinder.
2. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
3. Remove the rear wheels.
4. Remove the brake hose mounting bolt (A).

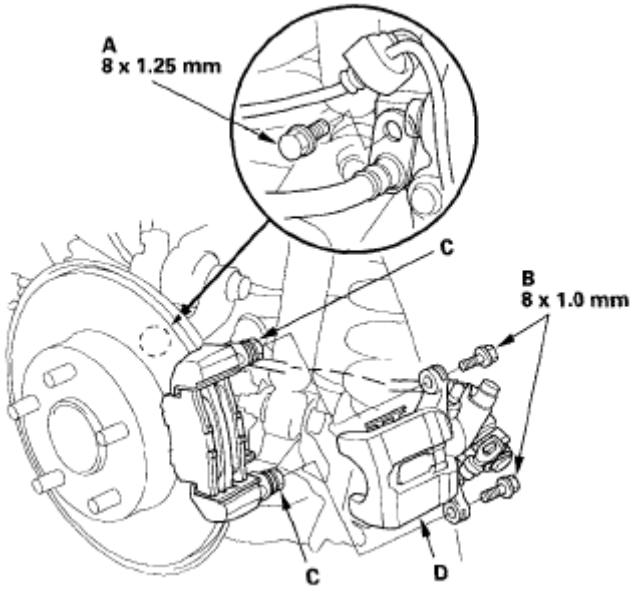


Fig. 55: Removing Brake Hose Mounting Bolt

5. Remove the flange bolts (B) while holding respective caliper pin (C) with a wrench. Be careful not to damage the pin boot, and remove the caliper (D). Check the hose and pin boots for damage and deterioration.

NOTE: Do not twist the brake hose and the parking brake cable to prevent damage.

6. Remove the pad shims (A) and brake pads (B).

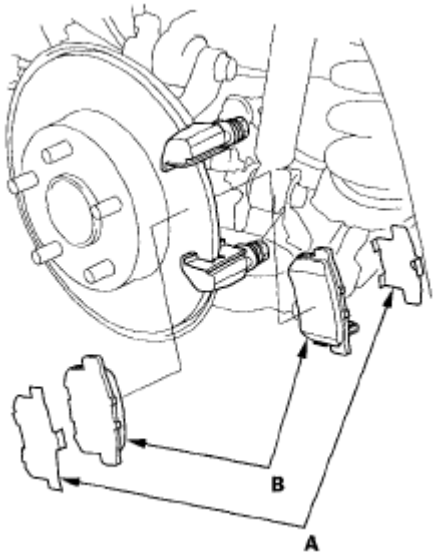


Fig. 56: Removing Pad Shims And Brake Pads

7. Remove the pad retainers (A).

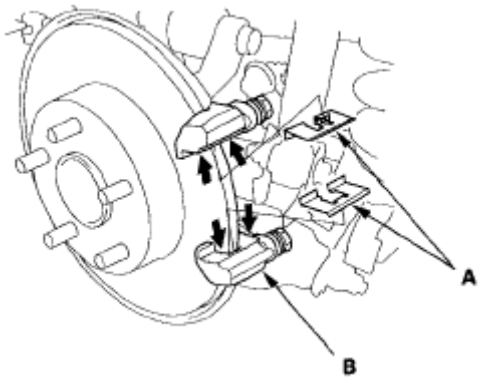


Fig. 57: Removing Pad Retainers

8. Clean the caliper bracket (B) thoroughly; remove any rust, and check for grooves and cracks.
9. Check the brake disc for damage and cracks.
10. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the retainers on their mating surfaces (indicated by the arrows) against the caliper bracket.
11. Install the pad retainers. Wipe excess assembly paste off the retainers. Keep the assembly paste off the discs and pads.
12. Apply a thin coat of M-77 assembly paste (P/N 08798-9010) to the pad side of the shims (A), the back of the brake pads (B), and the other areas indicated by the arrows. Wipe excess assembly paste off the pad shims and brake pads. Contaminated brake discs or brake pads reduce stopping ability. Keep assembly paste off the brake discs and pads.

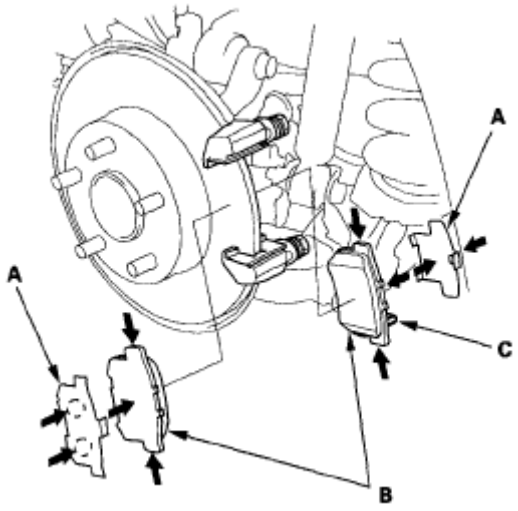


Fig. 58: Applying Assembly Paste To Pad Side Of Shims And Brake Pads

13. Install the brake pads and pad shims correctly. Install the brake pad with the wear indicator (C) on the bottom inside. If you are reusing the brake pads, always reinstall the brake pads in their original positions to prevent a temporary loss of braking efficiency.
14. Rotate the caliper piston (A) clockwise into the cylinder, then align the cutout (B) in the piston with the tab (C) on the inner pad by turning the piston back. Lubricate the boot with rubber grease to avoid twisting the piston boot. If the piston boot is twisted, back it out so it is positioned properly.

NOTE: Be careful when moving the piston back in the caliper; brake fluid might overflow from the master cylinder's reservoir.

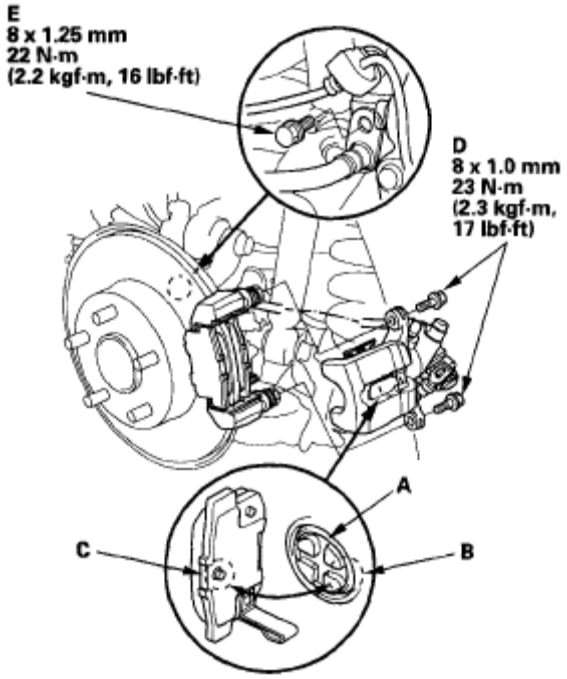


Fig. 59: Rotating Caliper Piston Clockwise Into Cylinder

15. Install the caliper. Install the flange bolts (D), and tighten it to the specified torque while holding respective caliper pin with a wrench. Be careful not to damage the pin boots.
16. Install the brake hose mounting bolt (E).
17. Press the brake pedal several times to make sure the brakes work.

NOTE: Engagement may require a greater pedal stroke immediately after the brake pads have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.

18. Add brake fluid as needed.
19. After installation, check for leaks at the hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks (see **BRAKE HOSE AND LINE INSPECTION**).

REAR BRAKE DISC INSPECTION

RUNOUT

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
2. Remove the rear wheels.
3. Remove the brake pads (see **REAR BRAKE PAD INSPECTION AND REPLACEMENT**).
4. Inspect the brake disc surface for damage and cracks. Clean the brake disc thoroughly, and remove all rust.
5. Install suitable flat washers (A) and wheel nuts (B), and tighten the wheel nuts to the specified torque to hold the brake disc securely against the hub.

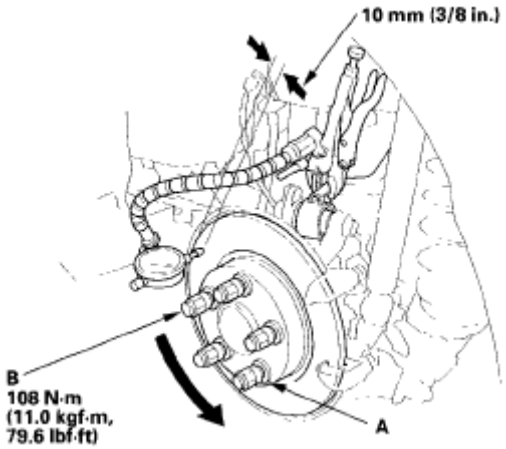


Fig. 60: Installing Suitable Flat Washer And Wheel Nuts (With Specifications)

6. Set up the dial gauge against the brake disc as shown, and measure the runout at 10 mm (3/8 in.) from the outer edge of the brake disc.

   Brake disc runout:

   Service limit: 0.04 mm (0.0016 in.)

7. If the brake disc is beyond the service limit, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-Way Manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation.

   Max. refinishing limit: 8.0 mm (0.31 in.)

NOTE:

- **If the brake disc is beyond the service limit for refinishing, replace it (see HUB BEARING UNIT REPLACEMENT-DISC BRAKE TYPE).**
- **A new brake disc should be refinished if its runout is greater than 0.04 mm (0.0016 in.).**

THICKNESS AND PARALLELISM

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
2. Remove the rear wheels.
3. Remove the brake pads (see **REAR BRAKE PAD INSPECTION AND REPLACEMENT**).
4. Using a micrometer, measure the brake disc thickness at eight points, about 45° apart and 10 mm (3/8 in.) in from the outer edge of the brake disc. Replace the brake disc if the smallest measurement is less than the max. refinishing limit.

   Brake disc thickness:

   Standard: 8.9-9.1 mm (0.35-0.36 in.)
   Max. refinishing limit: 8.0 mm (0.31 in.)

   Brake disc parallelism: 0.015 mm (0.0006 in.) max.

   NOTE: This is the maximum allowable difference between the thickness measurements.

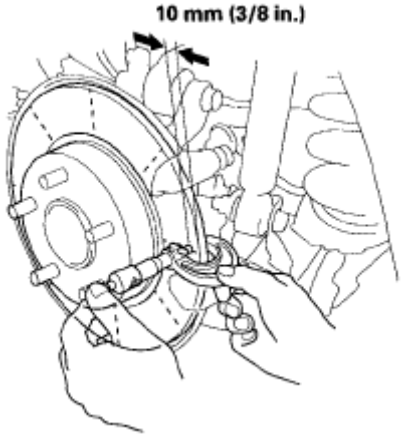


Fig. 61: Measuring Brake Disc Thickness

5. If the brake disc is beyond the service limit for parallelism, refinish the brake disc with an on-car brake lathe. The Kwik-Lathe produced by Kwik-Way Manufacturing Co. and the "Front Brake Disc Lathe" offered by Snap-on Tools Co. are approved for this operation.

NOTE: If the brake disc is beyond the service limit for refinishing, replace it (see HUB BEARING UNIT REPLACEMENT-DISC BRAKE TYPE).

REAR BRAKE CALIPER OVERHAUL

CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

Remove, disassemble, inspect, reassemble, and install the caliper, and note these items:

- Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid

gets on the paint, wash it off immediately with water.

- To prevent dripping brake fluid, cover disconnected hose joints with rags or shop towels.
- Clean all parts in brake fluid and air dry; blow out all passages with compressed air.
- Before reassembling, check that all parts are free of dirt and other foreign particles.
- Replace parts with new ones as specified in the illustration.
- Make sure no dirt or other foreign matter gets into the brake fluid.
- Make sure no grease or oil gets on the brake discs or pads.
- When reusing brake pads, always reinstall them in their original positions to prevent loss of braking efficiency.
- Do not reuse drained brake fluid. Use only clean Honda DOT 3 Brake Fluid from an unopened container. Using a non-Honda brake fluid can cause corrosion and shorten the life of the system.
- Do not mix different brands of brake fluid as they may not be compatible.
- Coat the piston, piston seal groove, and caliper bore with clean brake fluid.
- Replace all rubber parts with new ones whenever disassembled.
- After installing the caliper, check the brake hose and line for leaks, interference, and twisting.

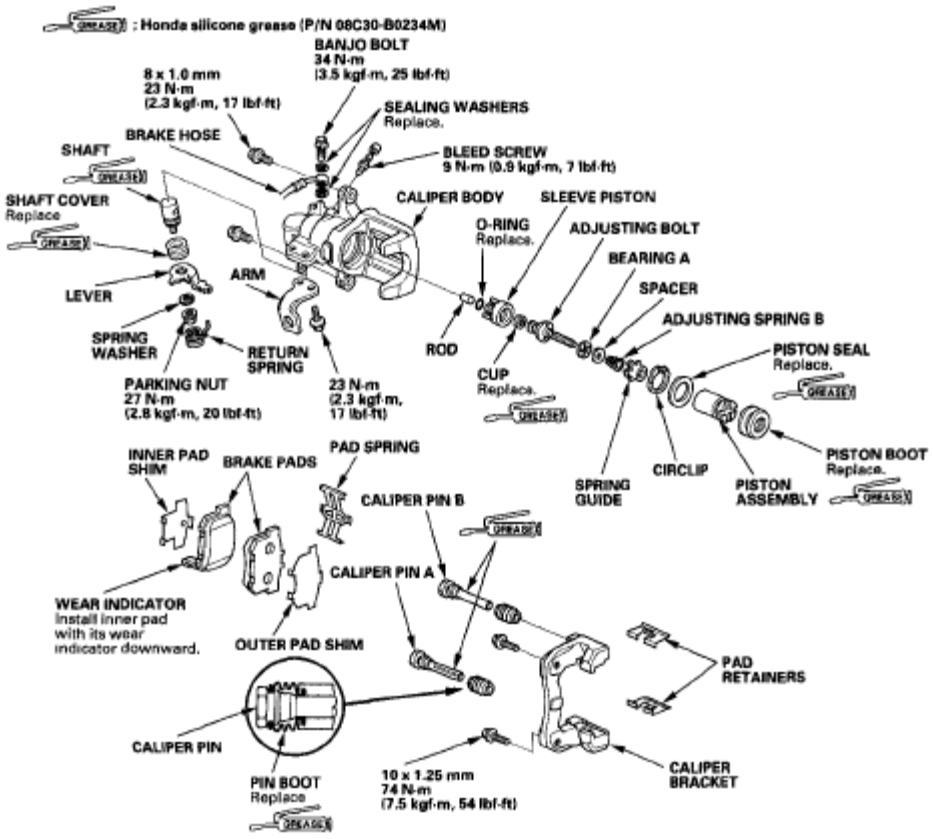


Fig. 62: Exploded View Of Rear Brake Caliper Overhaul (With Specifications)

REAR DRUM BRAKE INSPECTION

CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
2. Remove the rear wheels.

3. Release the parking brake, and remove the brake drum (see **HUB BEARING UNIT REPLACEMENT-DRUM BRAKE TYPE**).

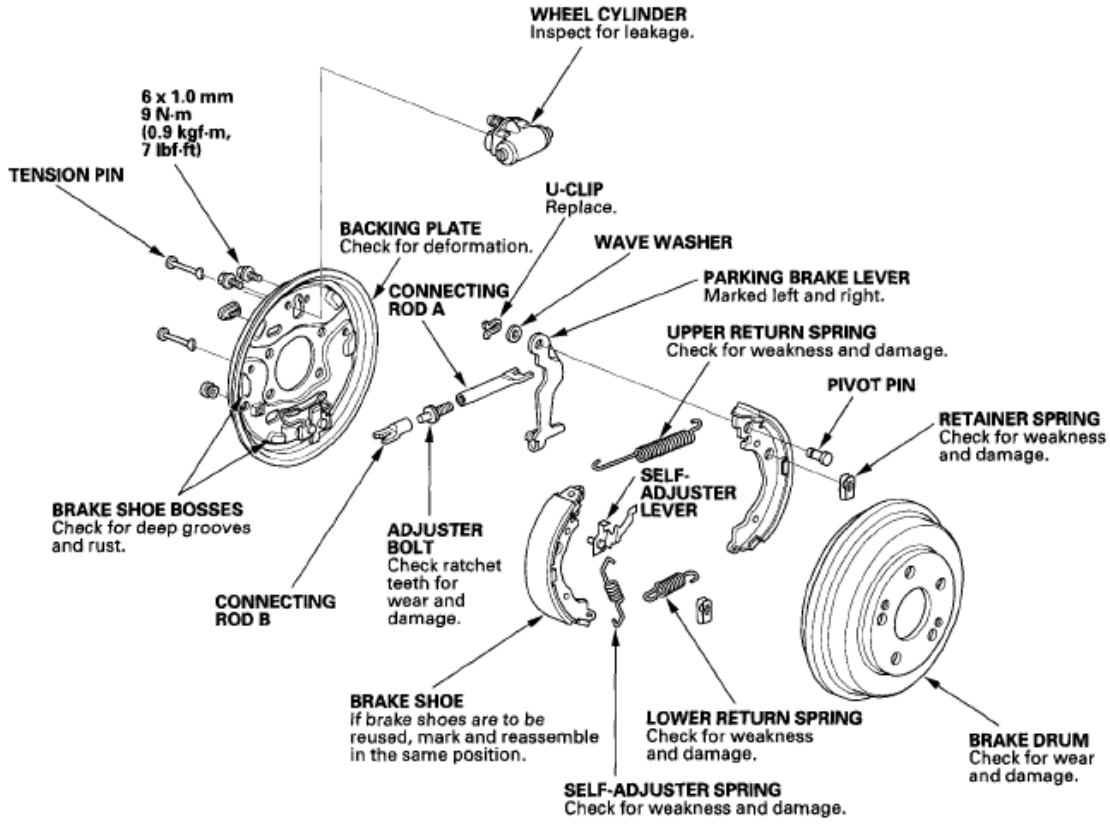


Fig. 63: Identifying Rear Drum Brake (With Specifications)

4. Check the wheel cylinder (A) for leakage.

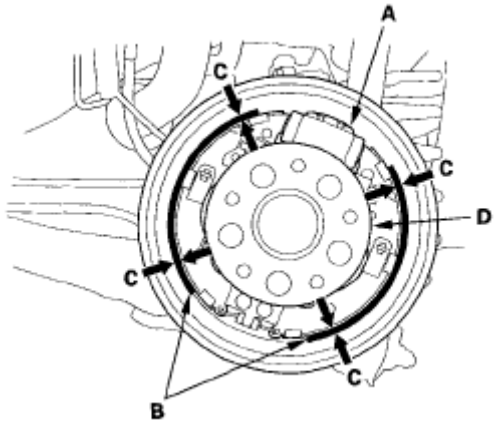


Fig. 64: Checking Wheel Cylinder For Leakage

5. Check the brake linings (B) for cracking, glazing, wear, and contamination.

NOTE: Contaminated brake linings or drums reduce stopping ability.

6. Measure the brake lining thickness (C). Measurement does not include brake shoe thickness.

Brake lining thickness:

Standard: 4.0 mm (0.16 in.)
Service limit: 2.0 mm (0.08 in.)

7. If the brake lining thickness is less than the service limit, replace the brake shoes as a set.
8. Check the hub (D) for smooth operation. If it requires servicing, replace the hub bearing unit (see **HUB BEARING UNIT REPLACEMENT-DRUM BRAKE TYPE**).
9. Measure the inside diameter of the brake drum with inside vernier calipers.

Drum inside diameter:

Standard: 199.9-200 mm (7.870-7.874 in.)
Service limit: 201 mm (7.91 in.)

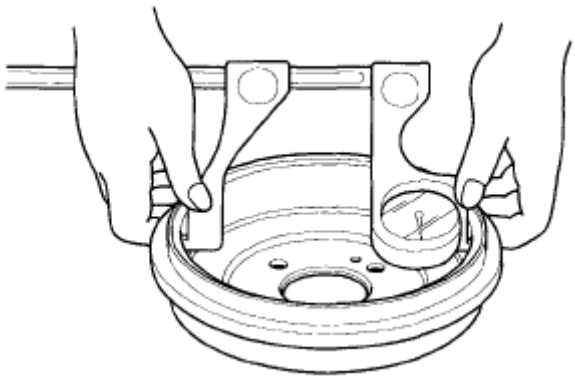


Fig. 65: Measuring Drum Inside Diameter

10. If the inside diameter of the brake drum is more than the service limit, replace

the brake drum.

11. Check the brake drum for scoring, grooves, corrosion, and cracks.

REAR BRAKE SHOE REPLACEMENT

CAUTION: Frequent inhalation of brake pad dust, regardless of material composition, could be hazardous to your health.

- **Avoid breathing dust particles.**
- **Never use an air hose or brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner.**

DISASSEMBLY

1. Raise the rear of the vehicle, and support it with safety stands in the proper locations (see **LIFT AND SUPPORT POINTS**).
2. Remove the rear wheels.
3. Release the parking brake, and remove the brake drum (see **HUB BEARING UNIT REPLACEMENT-DRUM BRAKE TYPE**).
4. Remove the tension pins (A) by pushing respective retainer spring (B) and turning the pin.

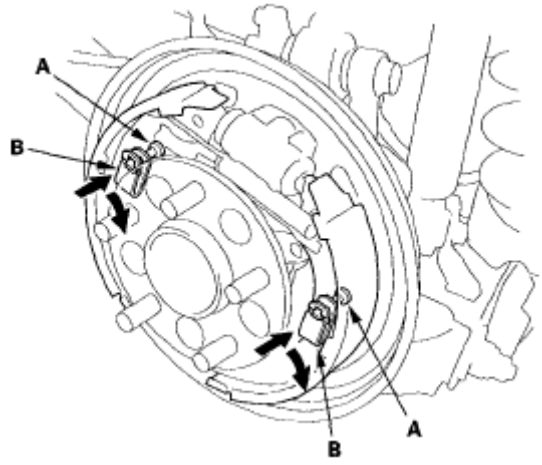


Fig. 66: Removing Tension Pins Pushing Respective Retainer Spring And

Turning Pin

5. Remove the lower return spring (A), and remove the brake shoe assembly over the hub.

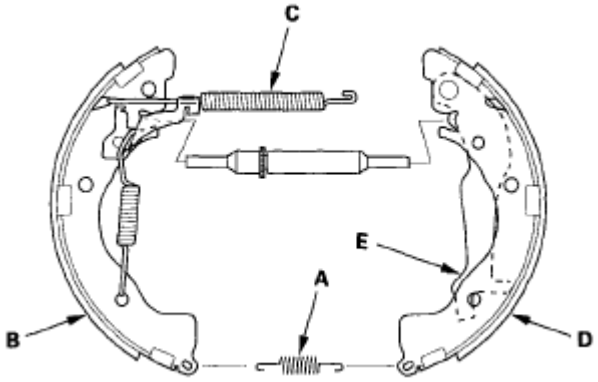


Fig. 67: Removing Lower Return Spring

6. Remove the forward brake shoe (B) by removing the upper return spring (C), and disassemble the brake shoe assembly.
7. Remove the rearward brake shoe (D) by disconnecting the parking brake cable from the parking brake lever (E).
8. Remove the U-clip (A), wave washer (B), and pivot pin (C), and separate the parking brake lever (D) from the brake shoe (E).

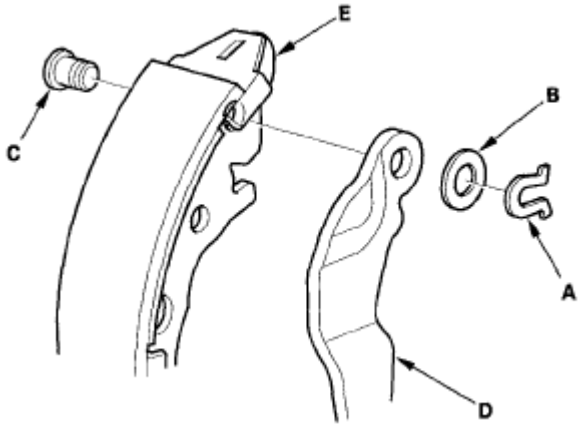


Fig. 68: Removing U-Clip, Wave Washer And Pivot Pin

REASSEMBLY

1. Apply rubber grease to the sliding surface of the pivot pin (A) for the rearward brake shoe (B).

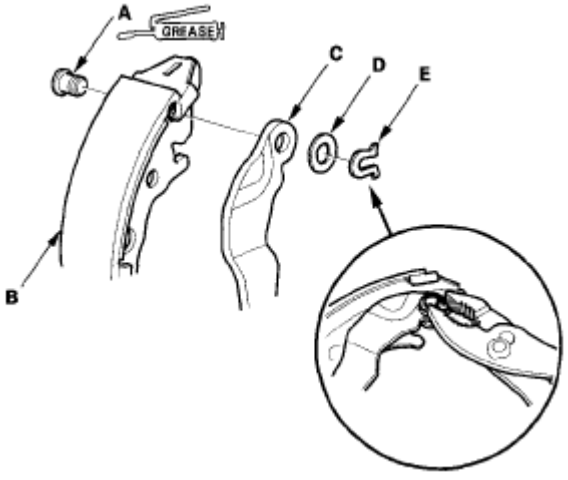


Fig. 69: Applying Grease To Sliding Surface Of Pivot Pin

2. Install the parking brake lever (C) and the wave washer (D) on the pivot pin, and secure with a new U-clip (E).

NOTE: Pinch the U-clip securely to prevent the parking brake lever from coming out of the brake shoe.

3. Connect the parking brake cable to the parking brake lever.
4. Apply a thin coat of rubber grease to the connecting rod ends (A), and the sliding surfaces (B) as shown. Wipe off any excess. Keep grease off the brake linings.

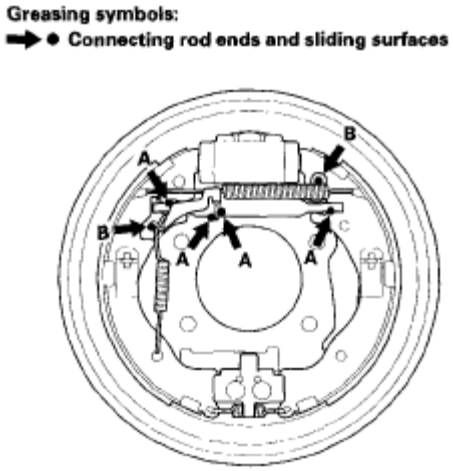


Fig. 70: Applying Coat Of Rubber Grease To Connecting Rod Ends

5. Apply a thin coat of Molykote 44MA grease to the shoe ends (A) and to the edge of the shoe surfaces (B) that make contact the backing plate as shown. Wipe off any excess. Keep grease off the brake linings.

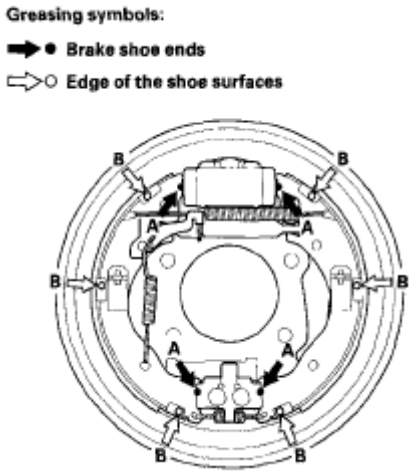


Fig. 71: Applying Grease To Shoe Ends And Edge Of Shoe Surfaces

6. Install connecting rods A and B on the adjuster bolt (C).

NOTE:

- **Clean the threaded portions of connecting rod A and the sliding surface of connecting rod B, then coat them with rubber grease.**
- **Shorten connecting rod A by fully turning the**

adjuster bolt.

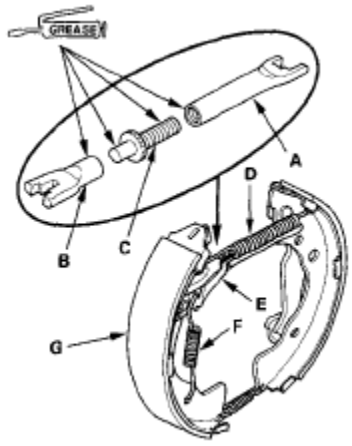


Fig. 72: Installing Connecting Rods A And B On Adjuster Bolt

7. Assemble the brake shoes, the upper return spring (D), and the connecting rods with the adjuster bolt against the backing plate, then install the self-adjuster lever (E) and the self-adjuster spring (F) on the forward brake shoe (G).
8. Install the tension pins (A) and the retainer springs (B) by pushing in respective spring and turning each pin.

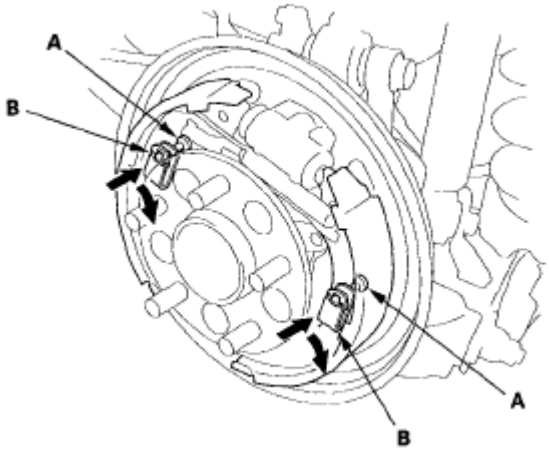


Fig. 73: Installing Tension Pins And Retainer Springs

9. Install the lower return spring.

NOTE: Make sure the brake shoes positioning on the brake shoe bosses of the backing plate, and fitting the top of the brake shoes onto the wheel cylinder pistons.

10. Install the brake drum.

NOTE: Before installing the brake drum, clean the mating surface of the rear hub and the inside of the brake drum.

11. Install the rear wheels.
12. Press the brake pedal several times to make sure the brakes work and to set the self-adjusting brake.

NOTE: Engagement of the brakes may require a greater pedal stroke immediately after the brake shoes have been replaced as a set. Several applications of the brake pedal will restore the normal pedal stroke.

13. Do the parking brake adjustment (see **PARKING BRAKE INSPECTION AND ADJUSTMENT**).

REAR WHEEL CYLINDER REPLACEMENT

NOTE:

- **Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.**
- **To prevent spills, cover the hose joints with rags or shop towels.**

1. Remove the brake shoes (see **REAR BRAKE SHOE REPLACEMENT**).
2. Disconnect the brake line (A) from the wheel cylinder (B).

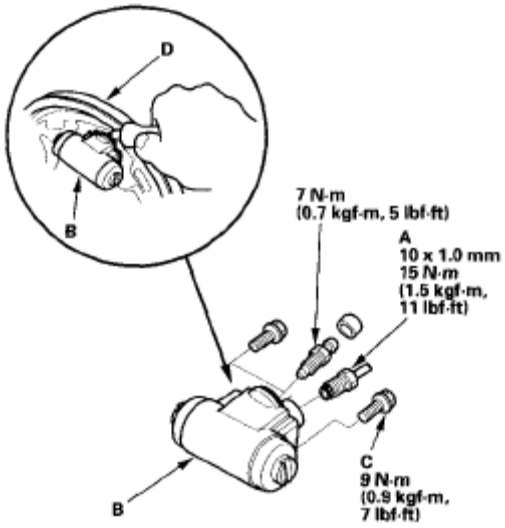


Fig. 74: Disconnecting Brake Line From Wheel Cylinder (With Specifications)

3. Remove the bolts (C) and the wheel cylinder from the backing plate.

NOTE: Use the special bolts on reassembly.

4. Apply Cemedine 366E sealant or equivalent between the wheel cylinder and backing plate (D), and install the wheel cylinder, then connect the brake line.
5. Install the brake shoes (see **REAR BRAKE SHOE REPLACEMENT**).
6. Bleed the brake system (see **BRAKE SYSTEM BLEEDING**).
7. Do the parking brake inspection and adjustment (see **PARKING BRAKE INSPECTION AND ADJUSTMENT**).
8. Spin the wheels to check for brake drag.
9. After installation, check for leaks at hose and line joints or connections, and retighten if necessary. Test-drive the vehicle, then check for leaks (see **BRAKE HOSE AND LINE INSPECTION**).

BRAKE PEDAL REPLACEMENT

1. Disconnect the brake pedal position switch connector (A).

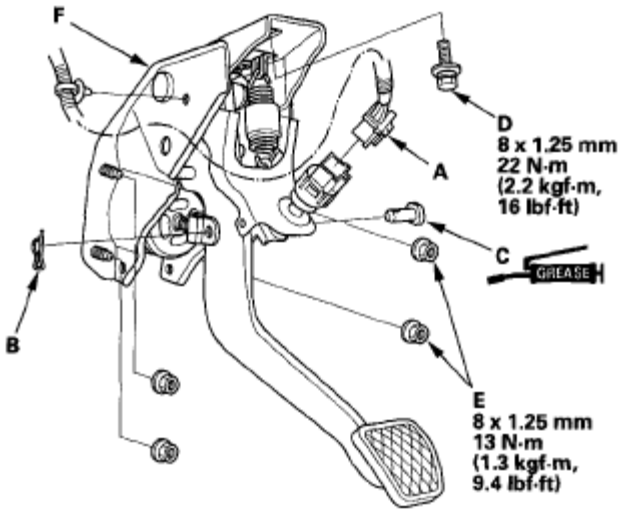


Fig. 75: Disconnecting Brake Pedal Position Switch Connector (With Specifications)

2. Remove the lock pin (B) and joint pin (C).
3. Remove the brake pedal bracket mounting bolt (D) and nuts (E).
4. Remove the brake pedal with bracket (F).
5. Install in the reverse order of removal.
6. Do the brake pedal and brake pedal position switch adjustment (see **BRAKE PEDAL AND BRAKE PEDAL POSITION SWITCH ADJUSTMENT**).

BRAKE HOSE AND LINE INSPECTION

1. Inspect the brake hoses for damage, deterioration, leaks, interference, and twisting.
2. Check the brake lines for damage, rusting, and leaks. Also check for bent brake lines.
3. Check for leaks at hose and line joints and connections, and retighten if necessary.
4. Check the master cylinder and the ABS or VSA modulator-control unit for damage and leaks.

MASTER CYLINDER AND ABS OR VSA MODULATOR-CONTROL UNIT

Connection Point	Component	Connected to	Specified Torque Value	Note
A	Front brake caliper	Brake hose	34 N.m (3.5 kgf.m, 25 lbf.ft)	Banjo bolt
		Bleed screw	9 N.m (0.9 kgf.m, 7 lbf.ft)	
B	Rear brake caliper (disc type)	Brake hose	34 N.m (3.5 kgf.m, 25 lbf.ft)	Banjo bolt
		Bleed screw	9 N.m (0.9 kgf.m, 7 lbf.ft)	
	Rear wheel cylinder (drum type)	Brake line	15 N.m (1.5 kgf.m, 11 lbf.ft)	Flare nut
		Bleed screw	7 N.m (0.7 kgf.m, 5 lbf.ft)	
C	Brake hose	Brake line	15 N.m (1.5 kgf.m, 11 lbf.ft)	Flare nut
D	Master cylinder (ABS)	Brake line	15 N.m (1.5 kgf.m, 11 lbf.ft)	Flare nut
	Master cylinder (VSA)		22 N.m (2.2 kgf.m, 16 lbf.ft)	
E	ABS modulator-control unit	Brake line	15 N.m (1.5 kgf.m, 11 lbf.ft)	Flare nut
	VSA modulator-control unit	Brake line (10 mm nut)	15 N.m (1.5 kgf.m, 11 lbf.ft)	
		Brake line (12 mm nut)	22 N.m (2.2 kgf.m, 16 lbf.ft)	
F	4-way joint	Brake line	15 N.m (1.5 kgf.m, 11 lbf.ft)	Flare nut

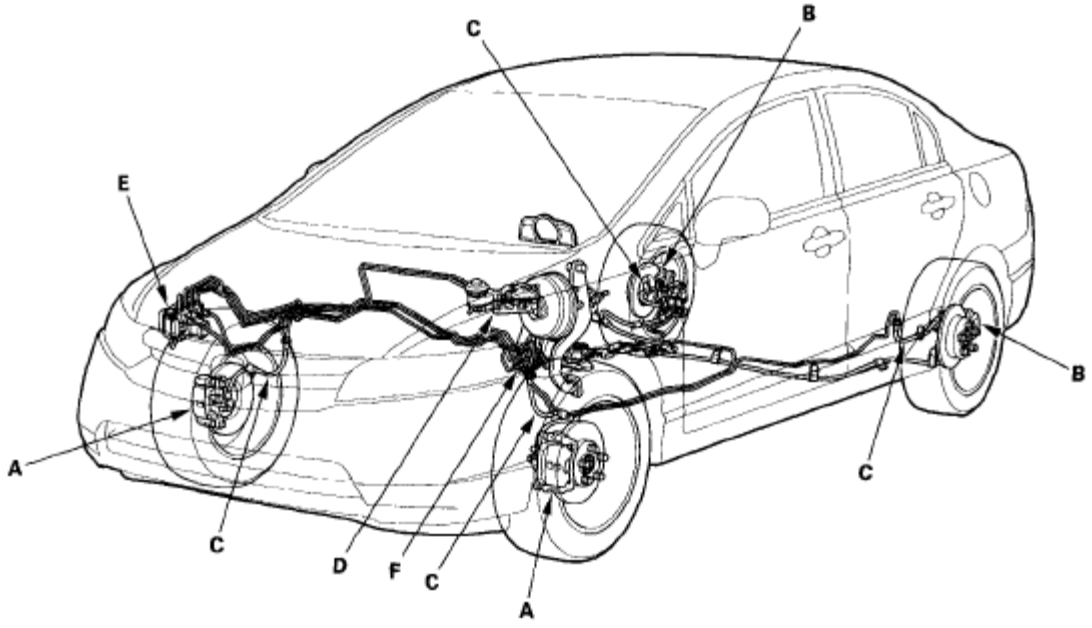


Fig. 76: Inspecting Brake Hose And Line

BRAKE HOSE REPLACEMENT

NOTE:

- **Before reassembling, check that all parts are free of dirt and other foreign particles.**
- **Replace parts with new ones whenever specified to do so.**
- **Do not spill brake fluid on the vehicle; it may damage the paint; if brake fluid gets on the paint, wash it off immediately with water.**
- **To prevent the brake fluid from flowing, plug and cover the hose ends and joints with a shop towel or equivalent material.**
- **The illustrations show only the front of the vehicle except where the procedure is different for the rear.**

REMOVAL

1. Disconnect the brake hose (A) from the brake line (B) using a 10 mm flare-nut wrench (C).

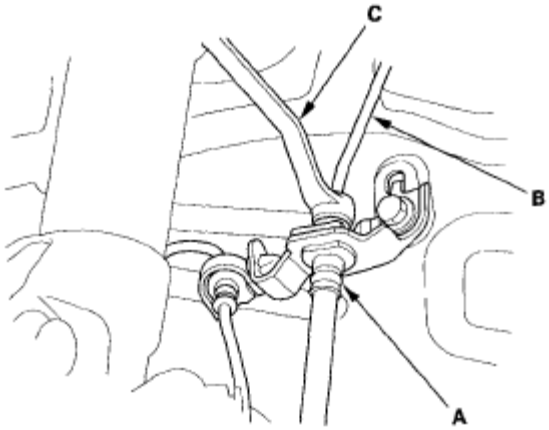


Fig. 77: Disconnecting Brake Hose From Brake Line

2. With clip type: Remove and discard the brake hose clip (A) from the brake hose (B).

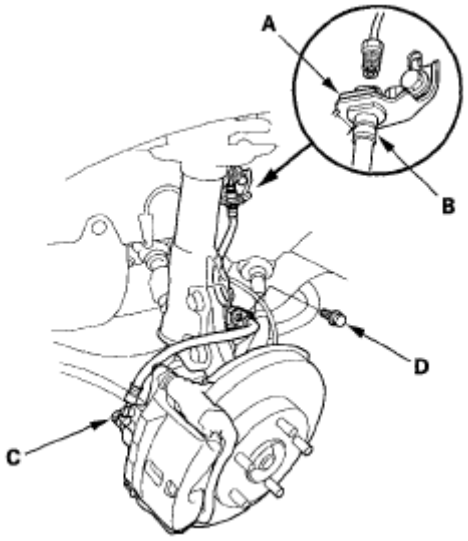


Fig. 78: Removing And Discarding Brake Hose Clip (Clip Type)

3. Disc brake type: Remove the banjo bolt (C), and disconnect the brake hose from the caliper.
4. Remove the brake hose mounting bolt(s) (D), then remove the brake hose.

NOTE: Without clip type: Remove the brake hose with the bracket.

INSTALLATION

1. Install the brake hose (A) with the mounting bolt (B).

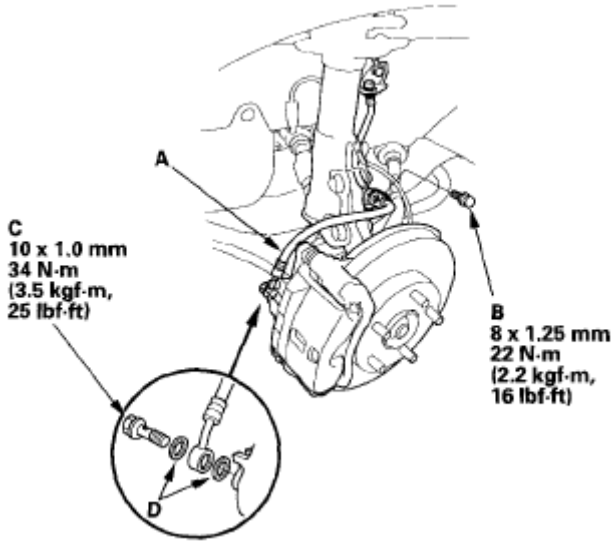


Fig. 79: Installing Brake Hose (With Specifications)

2. Disc brake type: Connect the brake hose to the caliper with the banjo bolt (C) and new sealing washers (D).
3. Position the brake hose ends (A).

NOTE:

- **With clip type: Install the brake hose on the brake hose bracket (B) with a new brake hose clip (C).**
- **Without clip type: Install the brake hose bracket (D) to the frame.**

With clip type

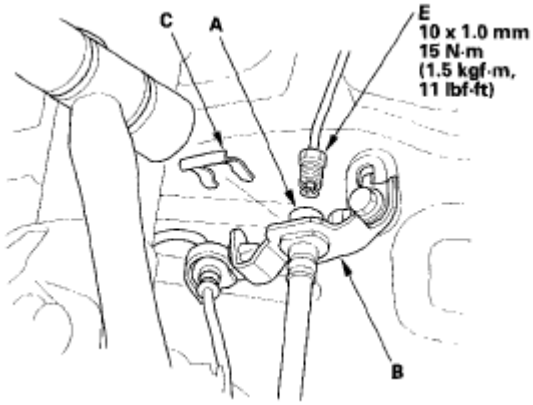


Fig. 80: Installing Brake Hose On Brake Hose Bracket (With Clip Type) (With Specifications)

Without clip type

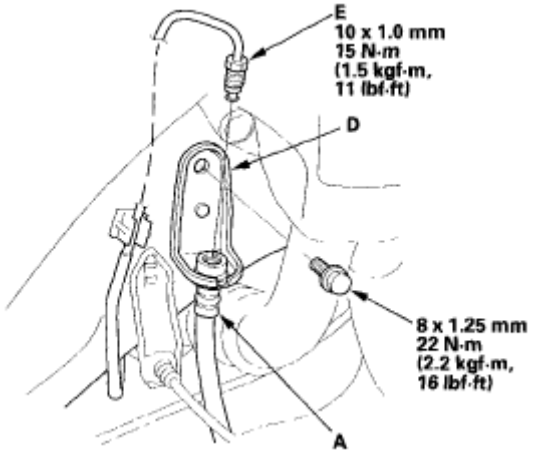


Fig. 81: Installing Brake Hose Bracket To Frame (Without Clip Type) (With Specifications)

4. Connect the brake line (E) to the brake hose.
5. After installing the brake hose, bleed the brake system (see **BRAKE SYSTEM BLEEDING**).
6. Do the following check:
   - Check the brake hose and line joint for leaks, and tighten if necessary.
   - Check the brake hoses for interference and twisting.

PARKING BRAKE CABLE REPLACEMENT

EXPLODED VIEW

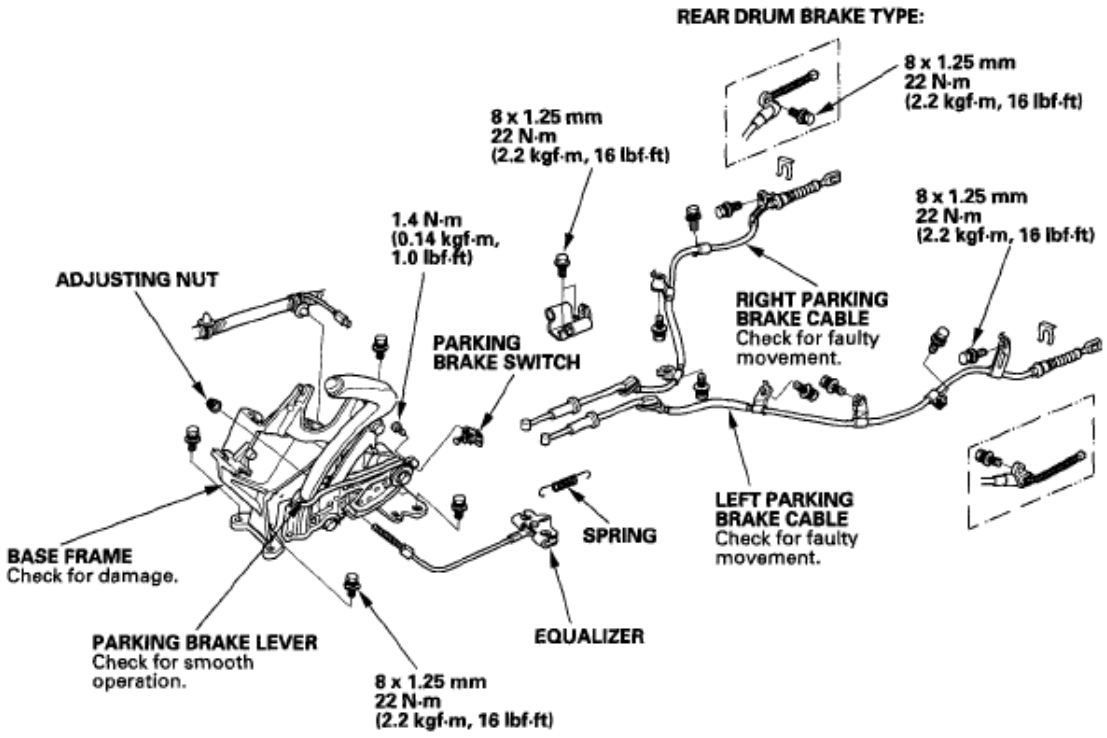


Fig. 82: Exploded View Of Conventional Brake (With Specifications)

NOTE:

- **The parking brake cables must not be bent or distorted. This will lead to stiff operation and premature failure.**
- **Refer to Fig. 82 as needed during this procedure.**

REAR DISC BRAKE TYPE

1. Release the parking brake lever fully.
2. Loosen the parking brake cable adjustment nut (see **ADJUSTMENT - REAR DISC BRAKE TYPE**).
3. Remove the parking brake cable clip (A) from the brake cable (B).

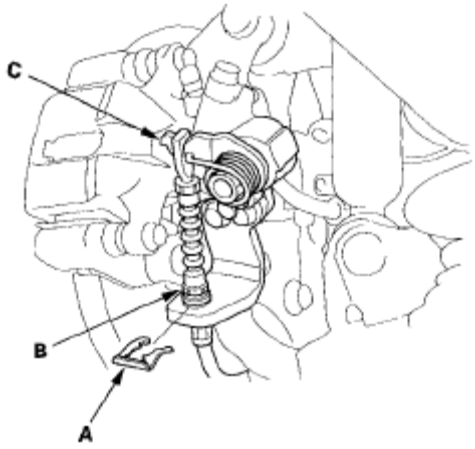


Fig. 83: Removing Parking Brake Cable Clip

4. Disconnect the parking brake cable from the lever (C).
5. Remove the parking brake cable mounting hardware, then remove the cable.
6. Install the parking brake cable in the reverse order of removal, and note these items:
   - Be careful not to bend or distort the cable.
   - Make sure the parking brake cable clip is fully seated on the cable housing.
   - Do the parking brake adjustment (see **ADJUSTMENT - REAR DISC BRAKE TYPE**).

REAR DRUM BRAKE TYPE

1. Loosen the parking brake cable adjustment nut (see **ADJUSTMENT - REAR DRUM BRAKE TYPE**).
2. Remove the brake drum and shoes, and disconnect the parking brake cable from the parking brake lever (see **REAR BRAKE SHOE REPLACEMENT**).
3. Remove the flange bolt (A) and parking brake cable (B) from the backing plate (C).

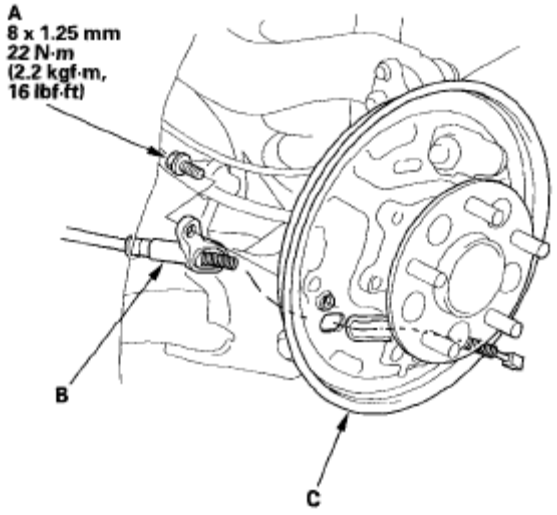


Fig. 84: Removing Flange Bolt And Parking Brake Cable (With Specifications)

4. Reinstall the parking brake cable in the reverse order of removal, and note these items:
   - Be careful not to bend or distort the cable.
   - Connect the parking brake cable to the brake lever, and install the brake shoes and drum (see **REAR BRAKE SHOE REPLACEMENT**).
   - Do the parking brake adjustment (see **ADJUSTMENT - REAR DRUM BRAKE TYPE**). Apply the parking brake firmly 10 times then adjust it again.

PARKING BRAKE LEVER GRIP AND COVER REPLACEMENT

REMOVAL

Lever Grip

1. Remove the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).
2. Pull up the parking brake fully (8 to 10 clicks).
3. Start at the front edge (A), peel lever grip away from lever cap (B). Continue to peel the grip from the lever to gain access to the hooks (C).

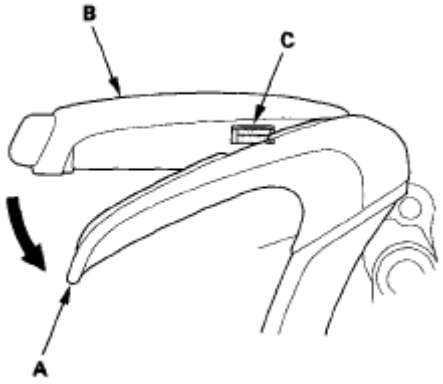


Fig. 85: Peeling Lever Grip Away From Lever Cap

4. Push in both sides of the hook (A) on the lever cap (B), and remove the lever cap and the pushrod (C) with the knob (D).

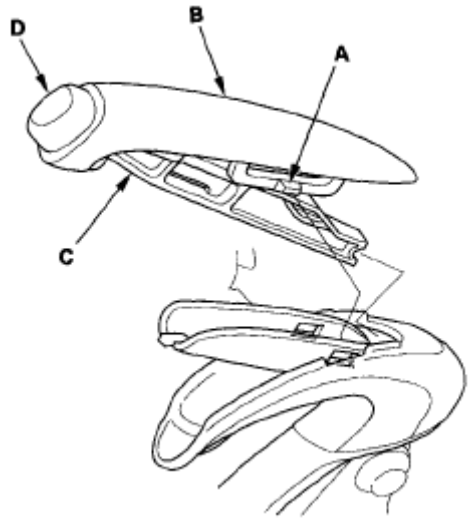
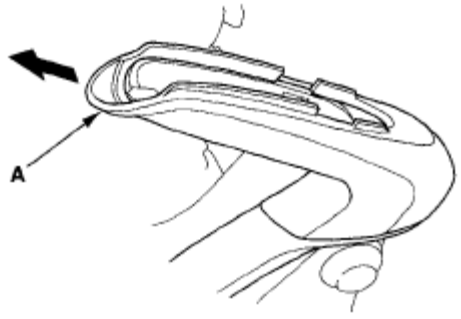


Fig. 86: Removing Lever Cap And Pushrod With Knob

5. Remove the lever grip (A) by sliding it up.



Lever Cover

Fig. 87: Removing Lever Grip

Lever Cover

6. Remove the clip (A) on the driver's side of the parking brake lever cover (B).

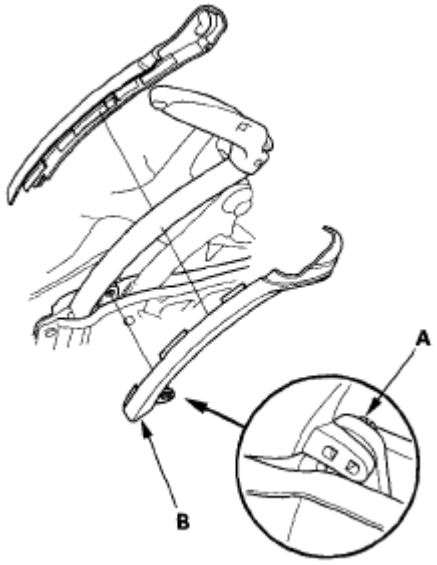


Fig. 88: Removing Clip On Driver's Side

7. Separate the parking brake lever covers, and remove them.

INSTALLATION

Lever Cover

1. Install the clip (A) on driver's side of the parking brake lever cover (B) to the

lever (C).

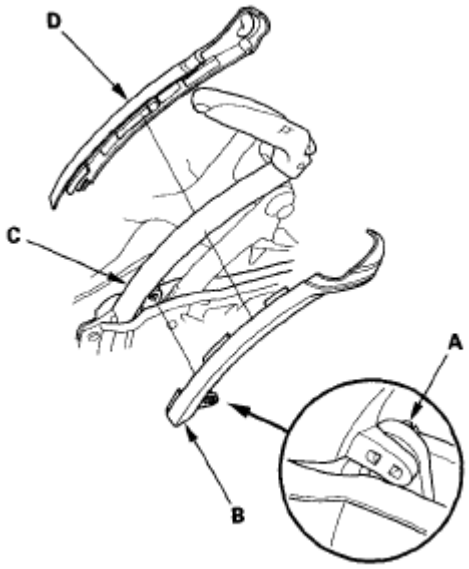


Fig. 89: Installing Clip On Driver's Side Of Parking Brake Lever Cover To Lever

2. Install the passenger's side of the parking brake lever cover (D), and squeeze both sides of the cover together.

Lever Grip

3. Install a new lever grip (A) by sliding it over the cover.

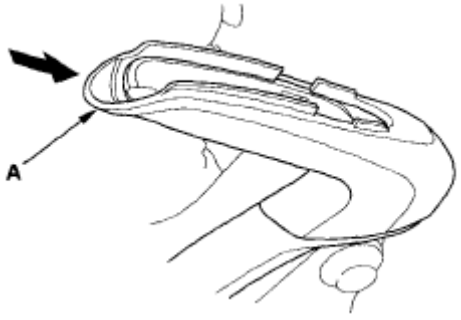


Fig. 90: Installing Lever Grip Sliding Over Cover

4. Install a new lever cap (A) on to the lever by aligning the notch (B) in the cap with the tab (C) on the lever.

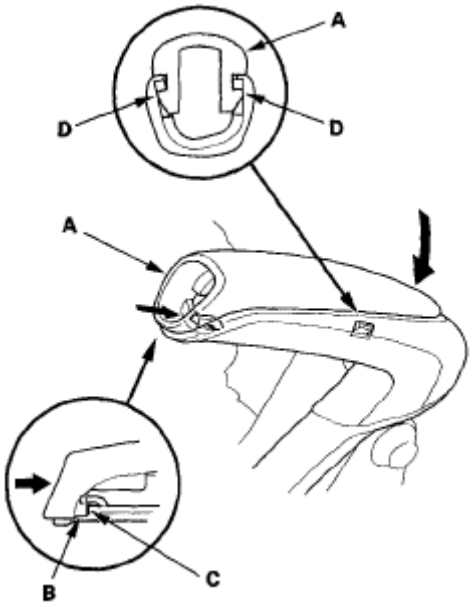


Fig. 91: Installing Lever Cap On To Lever

5. With the lever cap and grip in position, push down on the cap to lock the hooks (D) into place.
6. Carefully peel back the front edge (A) of the lever grip, and apply a small amount of gel type super glue (B). Carefully push the grip back into place and wait a minute for the glue to adhere.

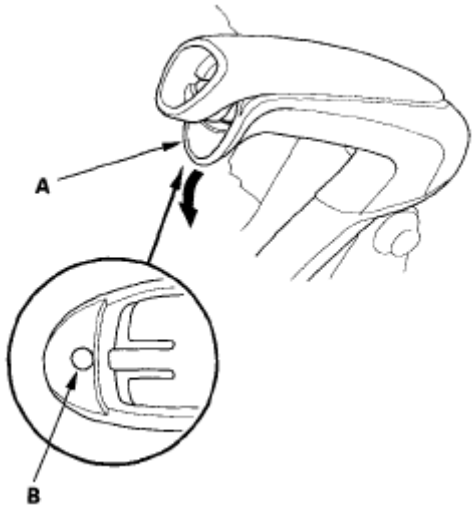


Fig. 92: Peeling Back Front Edge Of Lever Grip

7. Install a new pushrod (A) with the knob (B), and push them into the parking

brake lever (C).

NOTE: Do not use the removed pushrod and knob.

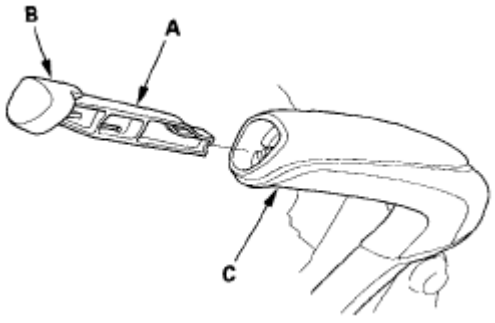


Fig. 93: Installing Pushrod With Knob

8. Release and pull the parking brake about 10 times.
9. Check the push knob play of about 0.08 in (2 mm.) and that the parking brake lever moves smoothly, then do the parking brake inspection (see **PARKING BRAKE INSPECTION AND ADJUSTMENT**).
10. Install the center console (see **CENTER CONSOLE REMOVAL/INSTALLATION**).

BRAKE PEDAL COVER REPLACEMENT

NOTE: This procedure is for models equipped with a metal brake cover.

1. Cover the carpet under the brake pedal to prevent metal shaving from getting on carpet.
2. Center-punch each of the rivets (A), and drill their heads off with a 0.12 in (3 mm.) drill bit (B).

NOTE: Do not drill the brake pedal plate (C).

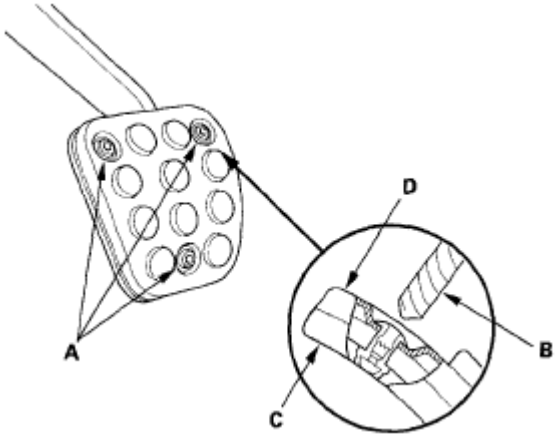


Fig. 94: Center-Punching Each Rivets

3. Remove the brake pedal cover (D).
4. Install the brake pedal cover (A) with the rivets (B) firmly.

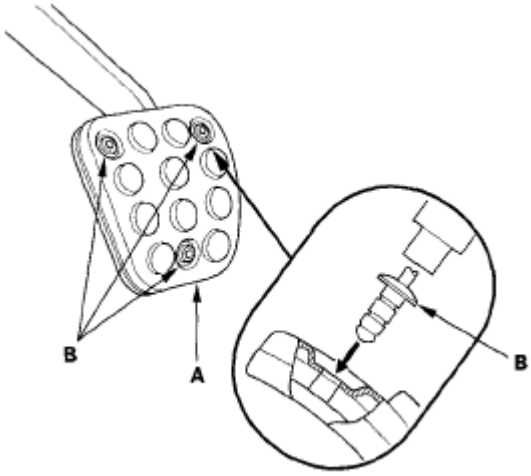


Fig. 95: Installing Brake Pedal Cover With Rivets

5. Make sure the brake pedal cover is fastened on the brake pedal by a hand.